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J.F. LANDENBERGER

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COVER
Orioles painting by Jim Landenberger, Cedar Rapids.

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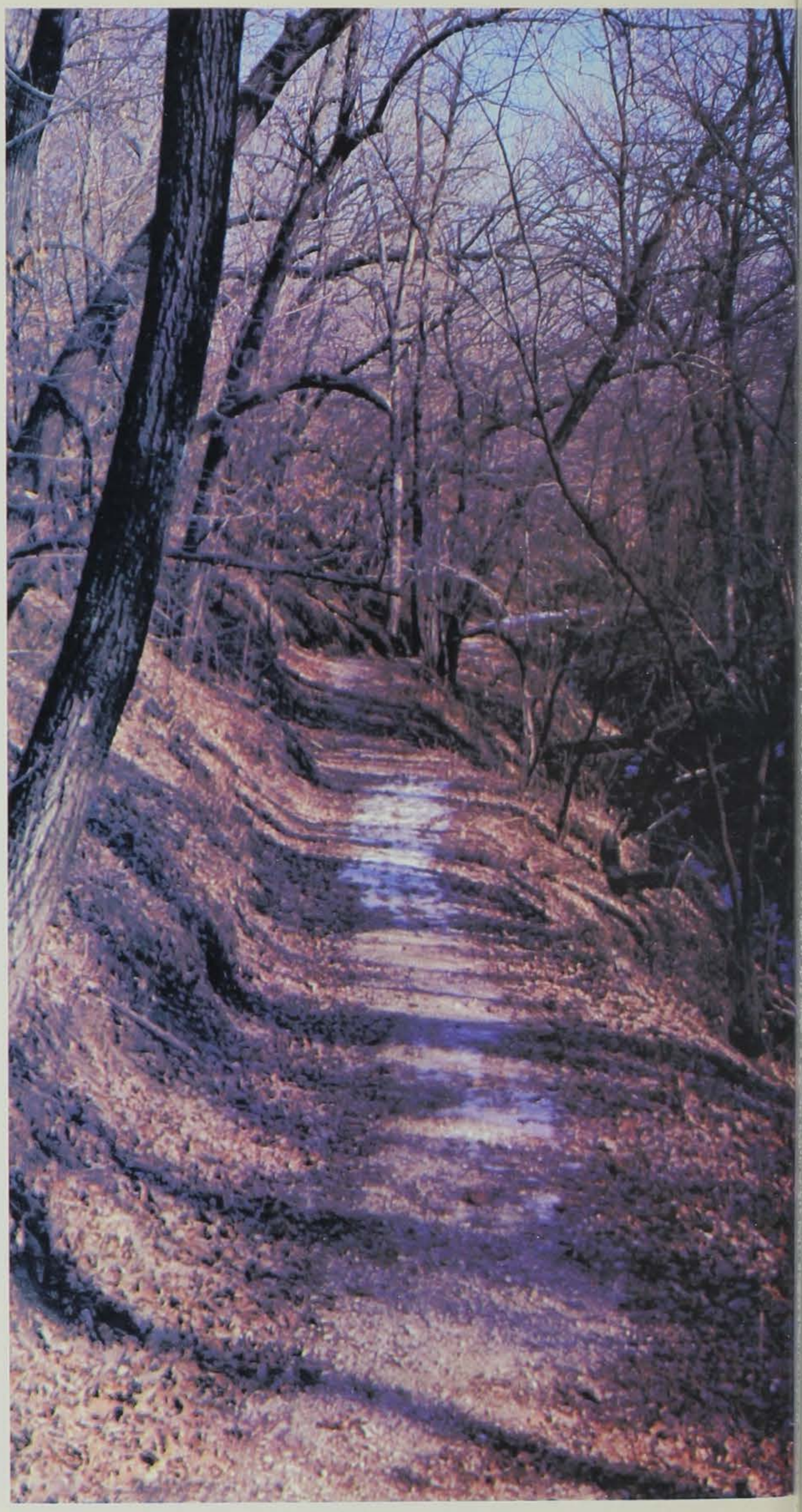


"Ambrose A. Call claims the Grove on July 10, 1854"

Ambrose A. Call State Park

BY Gary Poen, PARK RANGER

At the present site of Ambrose A. Call State Park, the Call brothers, Ambrose and Asa, carved their claim on a walnut tree. Asa had been an Indian commissioner in California during the gold rush and was carrying several thousand dollars in his buckskin vest to buy land. Later Asa wrote: *"At the site of Algona, I found a good tract of land with a fair amount of timber, some water power, and near the center of the county"*

During a stop in Fort Dodge, the brothers were warned about Sioux Indians who had robbed and driven off a party of surveyors. At that time, there were no settlements north of Fort Dodge. The brothers, with William Smith, continued north, spending their first night in Kossuth County on July 9, 1854. They marked their claims the next day. While Asa went back to Iowa City for his wife and supplies, Ambrose and Smith built the first cabin at the present site of Ambrose A. Call State Park. Asa's bride was the first white woman in the county.

Seventy-one years later, 1925, Mrs. Gardner Cowles made a gift of land to the state in memory of her father, Ambrose A. Call. The Algona Rotary, Kiwanis, Commercial Club, and the State of Iowa helped in the development of Ambrose A. Call State Park in 1926. The park was finally dedicated in 1929.

It is located in Kossuth County one mile south and west of Algona on primary road number 274 and is easily accessible from Highway 18 on the north or Highway 169 on the east.

A rugged area made up of glacial material left from the Wisconsin Ice Age, Ambrose A. Call State Park consists of a 134-acre tract of rolling hills, heavily wooded with virgin timber and bordering on the east fork of the Des Moines River. The charming park presents a direct contrast to the prairies of northern and western Iowa. As one travels from farmland to cool deep woods, it is as if one world is left behind and another is entered.

In our present society, the importance of constructive leisure time activity is at an all-time high. The state parks of Iowa provide this and are founded for three purposes: (1) they offer channels for recreation, (2) for the conservation of animal and plant life and (3) for the study of history, and natural science.

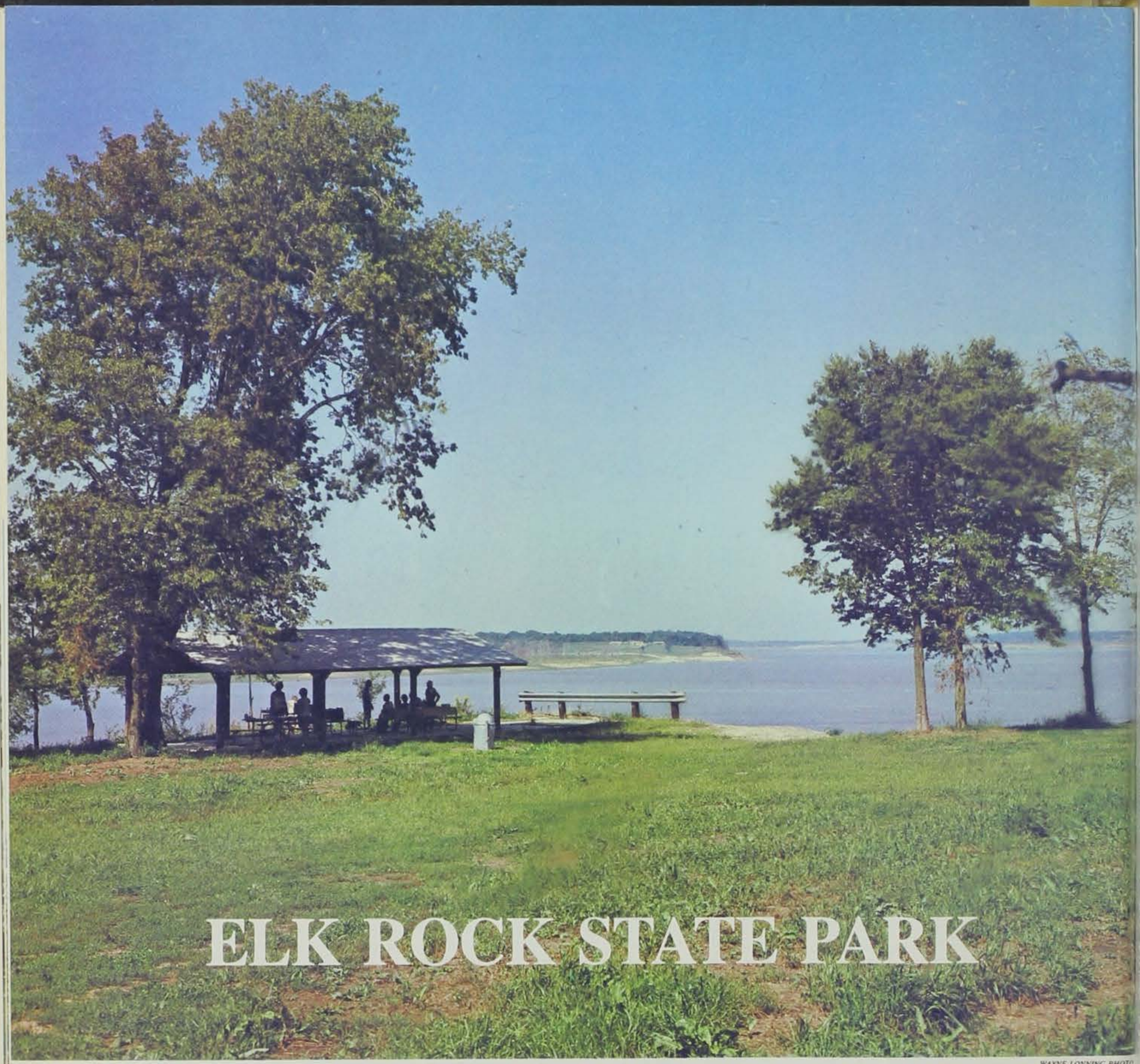
Ambrose A. Call State Park offers all this and has been enjoyed for these reasons for the last 50 years. The park offers five miles of trails which weave through the forest, down a ravine, and along a winding creek. The trail then leads up to a ridge that overlooks the Des Moines River Valley. Many trees and flowers not common to the open country are found along these trails. The nature lover will find it a treasure spot. The trails were established by the first park custodian Paul Wille, with assistance in 1933 by the Civilian Conservation Corps and upkeep in 1938 by Germans from the Prisoner of War Camp, located at Algona.

The park offers a log cabin-style lodge built in 1928. It is made of oak logs, some of which are native to the area. Paul Wille, custodian for 20 years, built much of the lodge furniture by hand from native wood. In the past, the lodge was used as a museum with a collection of Civil War and Indian artifacts and a variety of stuffed animals. The lodge is used for family picnics, outdoor weddings, and community gatherings. The lodge is available for reservation through the park ranger.

A study of history can be made by visiting the authentic log cabin in the park. Constructed of elm logs, some exceeding 18 inches in diameter, it is typical of the cabins built by the first settlers in the area. The logs were squared with a broad ax and four men were needed to put them in place. This cabin is in the approximate location of the first cabin of the county. It was moved from the August Zahlten homestead to the park.

The park also offers a non-modern camping facility accommodating up to 32 units. This is a place where the old-fashioned camper can still "rough it" in the great outdoors. The best time to camp is early in the summer to catch the beautiful spring flower display and to do a little mushroom hunting. After the first frost is the second favorite time, because of the changing colors of the fall foliage. But campers are welcome anytime of the year. All camping permits are issued by the park ranger. The park offers a spacious recreation area and plenty of choice spots for summer picnics.

I have told you about Ambrose State Park, the history of the area, the park offerings, and now I would like to leave this thought in your mind: *"Iowa wears a rose in her hair, but unless you spend some time apart from your business or weekly labors in places such as these, profuse in all the beauties of nature, you will miss some of her charms"*. □



ELK ROCK STATE PARK

WAYNE LONNING PHOTO

By Park Ranger Wes Jones and Assistant Park Ranger Joe Laird

Sic-ella-musk-achees roughly translated from the Fox Indian language, means *"Area of the red stones."* Today this area is encompassed by the lands and waters of a U.S. Army Corps of Engineers flood control project known as the Red Rock Reservoir and its name comes from that old Indian phrase. The Red Rock Reservoir is one of four federal flood control impoundments in the State of Iowa.

Elk Rock State Park is a portion of this project on land managed by the Iowa Conservation Commission under a long term lease agreement with the Corp. The park is located seven miles north of Knoxville, Iowa on Highway #14. It is comprised of approximately 1,000 acres lying on each side of the upper end of the standard conservation pool.

There is a bridge approximately 5,460 feet long over the Des Moines River at this point and the park extends eastward approximately 1½ miles from Highway #14 at each end of this bridge.

Prior to May 1, 1842, the white man had not been allowed to settle in any part of what is now Marion County in Iowa. At that time the U.S. Government came into possession of territory claimed and occupied by the Sac and Fox Indian tribes. This new territory included a little over one half of Marion County.

The boundary line separating this newly acquired territory from the Indian possessions was surveyed by G. W. Harrison in 1843 and, due to its location, was referred to as the Red Rock line. The line crossed the Des Moines River in a north-south direction approximately one mile up river from the present location of Highway #14 and the aforementioned mile long bridge.

In May of 1843, John Bedell, originally from Kentucky and Missouri, built a small log cabin at the base of the tall red sandstone bluffs on the north side of river just west of the present highway. Several other settlers followed and in 1845 Mr. Bedell surveyed ten acres into lots and proclaimed his town, one of the first in the county, Red Rock. Hence, the name for the Red Rock Reservoir.

Situated as it was, on a large river and a well used Indian trail and being on the western border of the U.S., the town enjoyed a certain notoriety not shared by other villages in the area. It became a trading and meeting place for whites and Indians alike. Among these being many adventurers, desperadoes and renegades of the time. The town retained much of its character and notoriety until the late 1950's and early 1960's when planning and work on the Reservoir began to take place.

Also in May of 1843, a treaty was drawn up whereby the Indians were to retire to the west of the aforementioned Red Rock line and could remain there until October 11, 1845. At that time, the land was opened to further westward expansion by the white man. The opening time, however, took place at midnight instead of at noon as was the time set for the much publicised Oklahoma land rush of 1889.

As mentioned earlier, the Red Rock project is a flood control operation developed by the U.S. Army Corps. Following the great floods of 1947 and 1948, Congress approved funds for a study of flood control on the Des Moines River. As a result of this study, construction of the Red Rock dam was begun in 1960 and completed in March of 1969. The dam is 5,676 feet long, of earth and concrete construction, has a highway across the top and provides water outlet by overhead taintor gates and/or under water conduits. The entire project cost $88 million.

It was estimated that it could take up to three years for the pool to fill. However, due to extremely heavy spring rains of that year, flood control level was reached in three days. This resulted in extreme debris and hazzard problems in the lake that took several years to correct.

The project has served its purpose well in that it has prevented untold millions of dollars in damages to towns and areas down stream from the dam.

At its normal conservation pool level of 728 feet above sea level, the lake covers roughly 10,500 acres of land. At full flood control level it covers approximately 65,000 acres. The water level can fluctuate as much as fifty-seven feet between these two extremes.

A large portion of the nearly 48,000 acres of normally usuable flood plain and adjoining uplands of the project is open to recreational use by the public. Various areas of this land are under management by the Corp., the Iowa Conservation Commission and local County Conservation boards respectively.

In 1969, a lease agreement gave the Conservation Commission control of those areas now known as North Elk Rock State Park and an area to be used as headquarters for a Water Safety Officer. On the park area, the Commission has developed an exclusively day use only recreation area. There are seven separate and distinct picnic areas that include eight open shelters with adjacent fire places, picnic tables, drinking fountains and modern restrooms.

There is also a three lane concrete boat launching ramp and nearly 1½ miles of gravel surfaced foot trail. The area is open to the public between the hours of 4:00 A.M. and 10:30 P.M.

In 1978, the South Elk Rock lease was negotiated and this area has been developed for multiple use. It contains two day use picnic areas with shelters, tables, fire rings, water and modern restroom. It also has foot trail access to the lake.

To the east of these picnic areas, by separate entrance, is a two lane concrete boat ramp and a camping area. The camping area is laid out in a unique manner in that it consists of randomly located circles. Each of these circles is 100 yards in diameter and has drive thru pads for nine camping units. Each pad has a fire ring and table and drinking water and garbage disposal is located in the center of the circle.

A modern shower building is centrally located and serves several circles. A tap for filling trailer drinking water tanks is near the camp area entrance and a sanitary trailer dump station is also available. At this time it appears we will not be able to have electricity available to individual campers before 1985. However, the shower building is electrically operated and has 110 volt outlets plus electric hand dryers.

The "Elk Rock" name is an old name in the area as it was used by early river travelers to designate a particular landmark rock formation located on the south side of the river in the park area. The area owes much of its early development to the river which provided easy access to those wishing to farm the rich bottom lands and later to mine coal in the nearby uplands. Many small settlements in the area sprang up to accommodate these early settlers and tradesmen. Among these villages which no longer exist are Red Rock, Cordova, Fifield, Rousseau, Percy and Dunreath — all within the present confines of the project.

The lake and river provide a variety of fishing and boating pleasures with the fishing in the river immediately below the dam usually being the best. This area, also has river access and fish cleaning stations provided and maintained by the Corp. Bass, catfish, walleye and crappie are most common.

The entire area is a bird watcher's paradise. It is a major stopping over place for waterfowl and other migratory species in both spring and fall. Among them being a large number of the great white pelicans and bald eagles. The area is a favorite haunt of Gladys Black, a local and well known ornithologist.

Even though fairly recent in establishment, Elk Rock State Park has many things for those who seek outdoor recreation. Be it history, bird watching, camping, hiking, picnicking, boating, fishing or just a pleasant drive in your auto, I am sure you will find something within the Red Rock complex that you will enjoy.

PHOTOS BY JERRY LEONARD

PALISADES-KEPLER STATE PARK

by Wayne Buzzard
PARK RANGER

Whenever people talk about the land around Mount Vernon, Iowa, the "Palisades" is usually mentioned in their conversation. Located five miles west of Mt. Vernon in Linn County, the "Pal" has been more than just a place for rest and recreation to many people. It has been a natural paradise where people have gone to view and reflect on the beautiful things nature has produced.

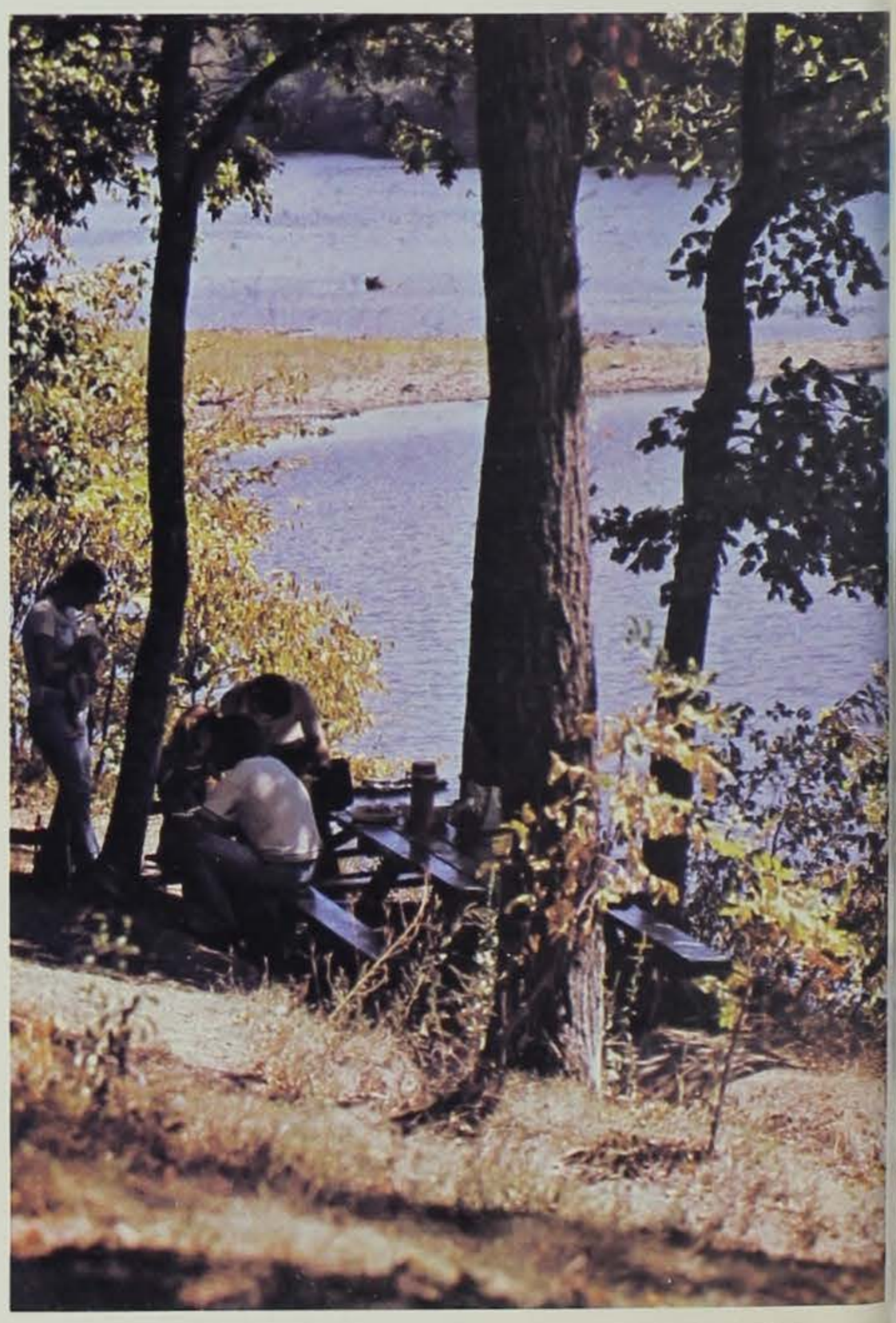
In the late 1890's, James Sherman Minott acquired control of some 160 acres of timberland in the lower Palisades region of the Cedar River and built a spacious inn for the accommodation of visitors to the area. Minott also established a boat livery and sold lots for the building of summer cottages (prices ranging from $20 to $71). Many people took advantage of those prices and soon the population of the area numbered approximately 200 people. Afternoon outings on the Red Cedar River, capped off by a quiet dinner at the combined log-cabin restaurant, general store, and hotel were a common occurrence in the early 1900's.

The noted American poet Carl Sandburg was also a yearly visitor to the "Palisades" during the 1920's and 1930's. Sandburg frequently visited nearby Cornell College and was very fond of the spring rambles with professors and students at Palisades Park.

In 1922, the State of Iowa acquired approximately 140 acres of flood plain, upland woods, and vertical cliffs in the Palisades region. Later, in 1926, the Louis Kepler Memorial tract was acquired, adjoining the Palisades. Those acquisitions marked the beginning of Palisades-Kepler State Park. Since that time approximately 700 acres have been added on the east and west sides of the Cedar River.

In the 1930's and the early 1940's the park profited greatly from the work of the Civilian Conservation Corps, which was established to help America deal with the hard times of the Depression.

On July 5, 1934, Company 2722 of the Civilian Conservation Corps was organized, consisting of about 210 young men between the ages of 18 and 25. The company built three barracks and one mess hall; then started on the work of adding to the park facilities. Between 1934 and 1937, the men of the C.C.C. built three and one-half miles of macadamized roads, five miles of hiking trails, stone portals at the entrance to the park, and a two-story lodge that would accommodate 150-200 people. A small look-out shelter was built above lover's leap, along with six stone cabins, a custodian's residence, various stone latrines, and an 18-car storage garage.



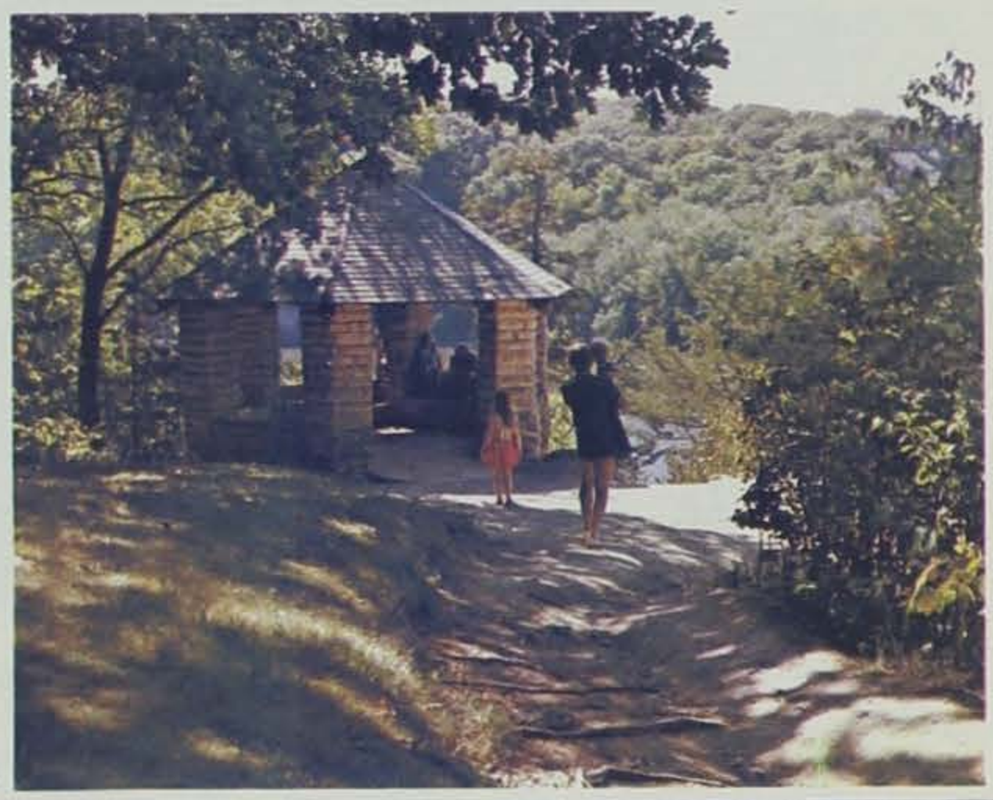
Also between 1934 and 1937, an 800 foot low head dam was constructed to maintain a suitable water level for boating and fishing along the Cedar River. Since that time the dam has been reconstructed and the river still holds good fishing and boating areas.

Although the C.C.C. has long since disbanded, many of the structures still stand, examples of the professional work the members of the C.C.C. accomplished. The lodge, for example, is still frequently used today.

The area holds both historic and pre-historic interest for its visitors. A molar tooth of a mammoth found here speaks of the far distant past; and the exposed rocks along the Cedar River are laden with fossils of millions of years of history past. Indian relics and mounds are also found in the park, reminding us that this was a favorite haunt of Indians before the settlers arrived.

The "Pal" is divided by the Cedar River, with the area on the west being set aside as a preserve whose only access is by water or by foot. This area consists of 330 acres and is under management agreement with the Linn County Conservation Board. The area to the east is set aside for outdoor recreation, having a camp area, four seasonal cabins, a lodge, and many hiking trails for the nature lover. The park is well known for its abundance of bird life and large variety of wild flowers and rare ferns. The large dolomite walls rising from the edge of the Cedar River give the visitor a beautiful scenic view.

Today the Palisades-Kepler State Park still has its mystical charm, giving the park visitor the chance to see the beauties of nature in a setting as enhancing as can be found anywhere. Palisades-Kepler State Park will always be the "Pal" to anyone who has ever visited there. □



PHOTOS BY RON JOHNSON

WILD MINK

by Jim Zohrer

WILDLIFE MANAGEMENT BIOLOGIST

PHOTO BY THE AUTHOR

THE SAME RICH SOILS that nourish our corn and bean crops also produce furbearing animals of exceptional quality and quantity. This permits Iowa to be one of the top fur producing states in the country. The value of furs taken by Iowa hunters and trappers in 1979 alone was well over 15 million dollars. One of our most valuable and certainly a most interesting furbearer is the mink. Mink are found all across Iowa and are fairly common. Over 31,000 mink were trapped in Iowa in 1979.

A large male mink will weigh approximately three pounds while a female will weigh closer to two. In the wild, mink are almost entirely brown in color with a little white on the chin and belly. Captive populations of mink have been bred to produce a variety of color phases, however. Mink have a pair of musk glands similar to those of a skunk. Their odor is considered by many to be even more obnoxious than that of their black and white relative.

Mink are considered an animal of the waters edge, and are normally found near rivers, streams, lakes or marshes. They live alone except for a short period of time during the breeding season, and when the female is raising her young. Like most other predators, their travels are extensive. Mink have been known to move up to 10 miles in a single night.

This member of the weasel family is a predator of the first class. Mink spend their nights on a solitary non-stop treck around their territories searching for whatever type of animal food comes easiest. They are often credited with feeding primarily on muskrats and at times controlling muskrat numbers. It would be closer to the truth to say that a mink would prefer not to tangle with a full grown healthy muskrat, and they probably feed most often on sick or dead muskrats. Mink often enter muskrat huts in search of an easy meal after severe muskrat die-offs on a marsh area. They are also not averse to feeding on decaying fish or dead waterfowl, and they are not above stealing a duck or chicken out of a farmer's barnyard. They are excellent swimmers and can easily catch fleeing fish under the water.

Paul Errington, an authority on Iowa mink, characterizes mink as being "restless, high-strung and ready killers. They show curiosity, indifference, boldness and wariness." Anyone who has watched mink in the wild or followed their tracks in the snow has seen many of these characteristics. I once watched a big male on one of his winter hunting excursions. He was hopping along a stream bank searching for food in every clump of grass and hole in the bank. He stopped for an instant, darted behind a snow bank, and came out with a frog. I would say that it takes a persisent hunter to catch a frog in January.

On another occasion I watched a family of mink consisting of one female and three half grown young on their morning walk along a lake shore. Their antics were most entertaining. While the female watched for danger, the young ones scampered and played in the leaves. They would roll down the bank into the water, and swim over, under and around logs, and then back to the shore. They inspected every stick and leaf, noisily discussing their findings as they went. One youngster ran up the bank to inspect my shoe. When he looked up and saw me his surprise was obvious. He squeaked a warning to his family and the group moved on down the shoreline.

Like most other predators, mink have well defined territories which they patrol and defend. Mink concentrations are never very high due to their solitary nature and territorial defense. Even in the best marshes, mink numbers of twelve per square mile are considered high. This is in comparison to muskrat numbers that could be well over 1,000 per square mile.

The biggest problem facing mink in Iowa is the continual loss of the habitat that they require for survival. The extensive wetland drainage and stream straightening projects that are taking place remove both the areas where mink live and their food sources. When mink are forced to move into a less desirable habitat, predators, starvation and severe weather all take a greater toll. Reproduction also is reduced and the population declines.

Let's hope that the loss of habitat in Iowa does not reach a point where this most interesting animal disappears from our countryside.

WILCOX PARK

A Motorcycle Playground

by Steven B. Edwards

EXECUTIVE DIRECTOR, MARION COUNTY CONSERVATION BOARD

HAVE YOU EVER been sitting at home watching television or listening to the radio when all of a sudden the only thing you can hear is the unmistakable roar of a dirt bike going by your house? Sometimes it sounds like it's going to go right through your living room and leave dirt clods on your carpet. How many times have you thought to yourself, "those darn machines should be outlawed in town and only allowed in the county".

Well, the fact is in most Iowa counties dirt bike riders don't have many places to ride, so they end up spending most of their time riding in town.

The residents of Marion County are lucky however, their county has a dirt bikers paradise in the Wilcox Motorcycle Park which is managed by the Marion County Conservation Board. Having a park designed especially for dirt bikes keeps the bikers out of town and provides a place they can really unwind.

The Wilcox Park's motorycycle park project started in 1977 when the Iowa Department of Transportation picked Wilcox (which is really 600 acres of old strip mines, nine miles southeast of Knoxville) to be the site for a new state funded motorcycle park. Marion County would provide the land and the D.O.T. would provide the money and the manpower to develop the area.

Now that most of the major development is done, Wilcox offers over 400 acres of trail riding with three degrees of difficulty, trails for novice riders, trails for average riders, and trails for expert riders. Also provided is a training area where young and inexperienced riders have plenty of room to learn how to ride their motorcycle. Last summer an average of 335 riders per month payed the $3 a day admission charge to ride in the park.

Wilcox Park also offers a ½ mile competition motocross track, a ¼ mile competition flat track, and a hill climb area that features a 160 foot hill. All three competition areas are available to riders while competition events are not being held. The motocross track had races every Friday night last summer and boasts one of the best lighting systems of any motocross track in the Mid-west. The average number of motocross racers for a Friday night race was about 110 with around 320 spectators. For information about this year's races contact Joe Adkins in Columbia, Iowa at 515-943-2549.

Another fast moving sport at Wilcox is hillclimbing and the Midwest Hillclimbers Association invites any and all to attend the climbs coming up during the 1981 season at Wilcox. Scheduled dates this year are June 14 and October 4 with night before camping available at the climb site. Admission for the climbs, which all start at 12:00 noon is $3. For more information about hillclimbs scheduled at other parks and cities contact Bill Riemenschneider in State Center, Ia. at 515-483-2962.

If motorcycles aren't your favorite form of recreation, maybe fishing is. Wilcox has a 4.5 acre lake located by its north boundary that has been stocked by the Conservation Board and has produced some very nice channel catfish.

In addition to fishing, bird watching, rock collecting, fossil hunting, swimming, primitive camping, ppicnicking, and trail walking can all be found at Wilcox Park.

In the winter time, Wilcox makes an excellent place to ride snowmobiles. With its many trails and hills it offers snowmobilers a place where they can ride without much fear of destroying vegetation and wondering if they are going to get in trouble. However, in the past few winters snowmobiling has slacked off due to lack of snow cover. Hopefully with a little help from mother nature the snowmobiling will improve in years to come.

Wilcox is located conveniently to a large number of potential users. In 1970 about 550,000 people or almost 20 percent of the state's population resided within one hour driving time from the park. The larger cities include: Des Moines, Newton, Indianola, Oskaloosa, Ottumwa, Marshalltown, Knoxville, and Pella.

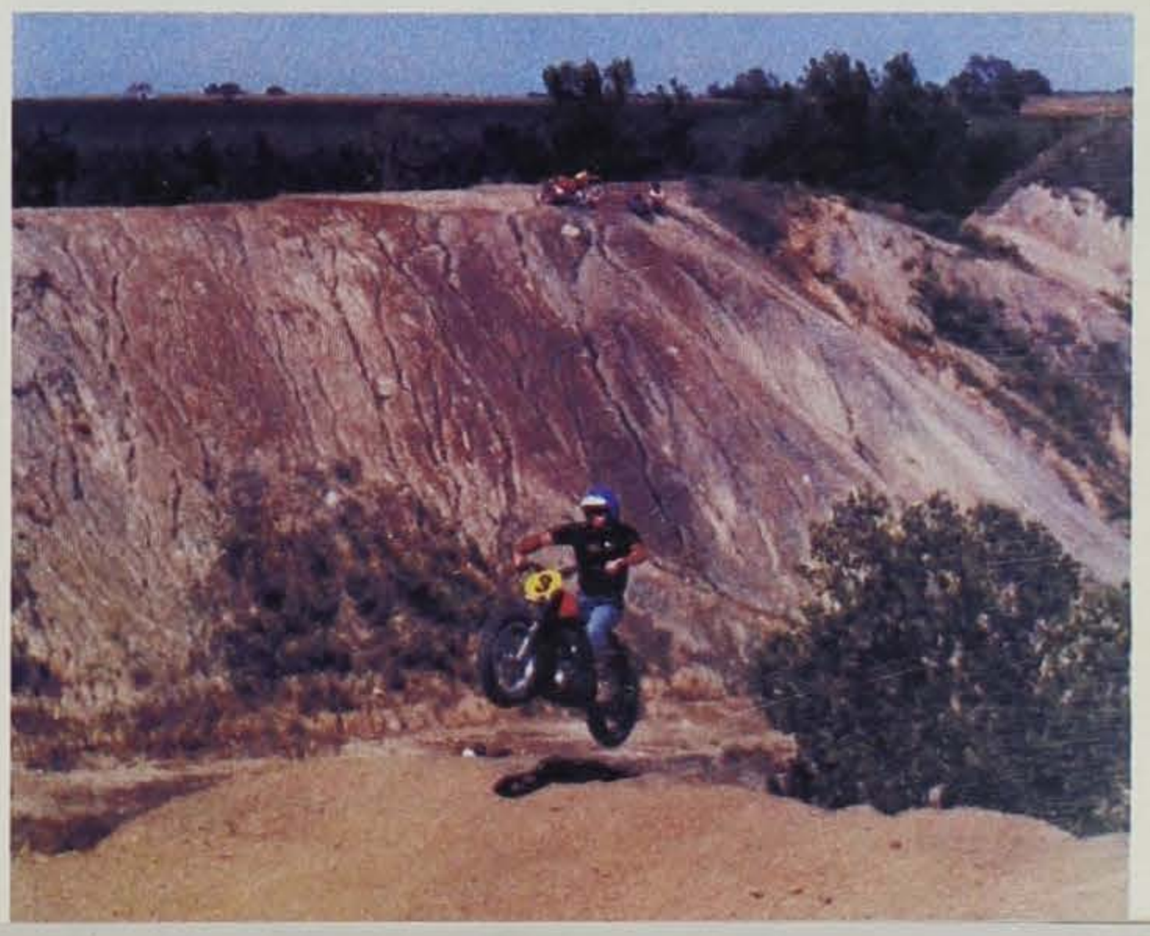
With motorcycle riding becoming more and more popular and the challenge of off-road motorcycle riding more attractive, the demand for areas like Wilcox will increase. Providing areas for motorcycle riders is important so that they are not competing with fishermen, hunters, and hikers for limited recreational lands.

Areas such as Wilcox also provide problems for the agency managing it in that they are usually isolated. Two of the biggest problems are vandalism to buildings and machinery and securing the area so people won't be riding in restricted areas or cutting fences to get in free. Last summer both were held to a fairly low level.

But, after weighing the pros and cons of a motorcycle park such as Wilcox, the Conservation Board feels it is providing an area that many people can enjoy and with the continued good sportsmanship that most dirt bike riders show, Wilcox Park and other parks like it should prosper in the future.

Who knows, maybe parks like this will save the ears of city folks and yet be environmentally acceptable in the countryside. Come out to Wilcox Park and see for yourself. □

Rick Hickle, 650c.c. novice rider from Des Moines, passes the 100-foot mark in classic style, ready to negotiate the rest of the 140-foot Semi-Pro hill at Wilcox Park.



Crappie: King at Rathbun

by Larry Mitzner

PHOTO BY KEN FORMANEK

CRAPPIE FISHING has been exceptionally good at Lake Rathbun. Even the poorer years haven't been bad. You may have been one of the 200,000 anglers who fished Lake Rathbun in 1974 and 1975. Do you remember the excellent fishing in April, May and June? Stringers, baskets and buckets were literally packed with crappie. These were the heyday years at Rathbun when an estimated 550,000 crappie were caught yielding about 50 tons of fillets — an enormous amount of delicious eating. Even during 1977, the poorest year of fishing, about 9 tons of fillets were taken from the lake. Other species such as walleye, channel catfish, largemouth bass, and white bass are important at the lake, yet crappie remains the undisputed "king".

Why were so many crappie taken in 1974 and 1975 compared to so few harvested in 1977? Fisheries biologists have demonstrated crappie are cyclic in nature, however, the cause of these fluctuations remains unclear. A great many reasons for the ups and downs in crappie populations have been suggested. They include weather patterns, water quality and the abundance of fish food.

Studies at Lake Rathbun show fluctuations in crappie numbers are due to the lake water level attained in spring and summer. The greatest number of young crappie occurred in 1973 and again in 1978 when the water level in the reservoir was 12 feet higher than normal. The opposite occurred in 1975 when the reservoir was low and stable. Few young crappie were produced. This situation is not unique to Rathbun as other flood control reservoirs show the same trend. High water — many young fish. Low water — few young fish. This simplification is not true of all fish species, but it is true for crappie in fluctuating flood control reservoirs.

Again the question: why does high water provide good hatching and survival of young crappie? Undoubtedly high water creates a "new reservoir" condition. It is well known that in recently filled reservoirs fish populations flourish. The same may happen to older reservoirs where flooding above normal pool occurs periodically. One of the key elements seems to be vegetation in the form of small trees, brush, weeds or even tall grasses. These items, as they decay, provide nutrients which enhance the food supply for the young fish. The vegetation also provides cover for the young crappie to escape predation. Lastly the vegetated bottom itself provides a safer nesting substrate for fish species such as crappie, bluegill and largemouth bass which build and deposit eggs in a nest. Wind-sweep, muddy shorelines are a very harsh environment for survival of delicate fish eggs and larvae.

Regardless of the theory or how or why it works the fact remains — high water produces greater numbers of young crappie at Lake Rathbun. This in turn greatly benefits the fisherman.

The great number of fish caught in 1975 is a good example. Many of the crappie caught that year were hatched in 1973, the year of high water and an abundance of young crappie. Unfortunately, the opposite occurred in 1977 when fishing was not as good. Few crappie were produced in 1975 consequently few crappie existed two years later in 1977 and fishing was poor. The primary cause: low, stable water conditions in the spring and summer of 1975. Research findings at Lake Rathbun have shown the primary cause (about 75%) of ups and downs in the crappie fishery is directly related to the spring-summer water levels 2, 3 and 4 years previous. The information is valuable and important to crappie fishermen and has been provided to the Army Corps of Engineers responsible for managing the reservoir.

Crappie fishing may never be better than those memorable years of 1974-75. However, management of water levels should help eliminate the poorer years such as 1977. Crappie will always have their ups and downs, but undoubtedly they'll remain one of the more important fish species in our flood control impoundments. More importantly fishermen like crappie simply because they're readily caught and batter fried crappie fillets provide some excellent eating. □

Iowa Youths "Drown-Proof" Themselves . . .

POSTER CONTEST MAKES BIG SPLASH!

by Betsy Malueg

Winners Arden Hendrie of Iowa City (center) and Chris Grant of Lime Springs with Governor Ray.

WATER RELATED RECREATION is one of the safest pastimes in the United States. Over 150 million swimmers and boaters annually enjoy themselves on and in our waters. Comparatively speaking, the approximately 6,500 swimmers and 1,300 boaters who died in the water last year were an extremely small portion of the user population. When viewed against the total number of hours they spent on or in the water, those fatality figures were insignificant, . . . or were they? Last year drowning was the second greatest cause of accidental death among persons between the ages 1 to 44. To make children more safety conscious safety educators and other interested people realized more emphasis was needed to be placed on water safety. So last summer, the Iowa Conservation Commission Waters Section, along with the Des Moines Power Squadron, the Iowa Chapter of the American Red Cross, the Iowa Department of Public Instruction, and the U.S. Coast Guard Auxiliary, began developing plans for the first boating and water safety poster contest. The purpose of the proposed annual project was to help foster a water safety consciousness among Iowa's young citizens, and to promote a new event for the Iowa Safety Boating Week promotion.

As an incentive for children to participate, IMT Insurance Company agreed to donate over $300 in cash prizes. Those prizes were to be awarded to the top five entries for each of two grade categories.

Publicity efforts began last November. Articles and news releases were sent to all media and every school in the state. An entry deadline of February 1, 1981, was set. When that date arrived, the contest sponsors were pleasantly surprised. Swamped might be a better term. More than 1,400 entries flooded the Commission's mail room.

The judging took place on Feb. 11 in the fourth floor conference room of the Wallace Building. It soon became apparent that the judging would spill over into the building's large auditorium where plenty of wall space was available to display the posters for judging. Ten winners were selected by a team of judges comprised of representatives of the sponsoring organizations and an elementary school art teacher. The posters which, in the opinions of the judges, best illustrated the contest theme "Drown-Proof Yourself" were selected to win the cash prizes.

Chris Grant of Lime Springs won first place in the grades 1-3 category with a design emphasizing use of the buddy system while swimming. Arden Hendrie of Iowa City took top honors in the grades 4-6 category with an entry depicting boaters wearing personal flotation devices. Both boys received a cash award of $60 and a wall certificate. All winners received their prizes at their own schools before their fellow students. The two 1st place winners were also invited to Des Moines in May to witness the signing of the Safe Boating Week proclamation by Governor Ray.

Cash prizes and certificates were also given to the next four place winners in each category. The winners are:

	Grades 1-3	Grades 4-6
2nd Place ($40)	Amy Goerdt Dyersville	Daniel O'Connor Davenport
3rd Place ($30)	Sonia Holland Emmetsburg	Shawn Bennett Harvey
4th Place ($20)	Jamie Delaney Lake Park	Heidi Bullinga Marion
5th Place ($10)	Amy Twait Emmetsburg	Bill Barry Des Moines

Iowa Engraving contributed a plaque to the project. IMT Insurance is printing 5,000 copies of each first place poster. These prints will be distributed to Iowa schools and the boating public to further promote water safety in the state. □

SMOOTH SAILING FOR SAFE BOATING WEEK

THE IOWA CONSERVATION COMMISSION, along with the U.S. Power Squadron, the U.S. Coast Guard Auxiliary, and the American Red Cross, conducted numerous activities in an all-out effort to promote boating safety during National Safe Boating Week, May 30 through June 6. Safe boating courses, courtesy motor boat inspections, and water parades were held across the state to place added emphasis on safe boating during this week and throughout the summer.

The Commission's cut-away boat, which displays the required safety equipment, was exhibited at various boat ramp locations and may be viewed at other spots this season. The Coast Guard Auxiliary will continue offering free courtesy motorboat examinations at various locations around the state. The examinations include a check of all required and recommended safety equipment. Red Cross officials conducted training in small craft operations during Safe Boating Week and will hold additional sessions later this season.

EXPLORING NATURE NEAR TOWN

by Rich Patterson
DIRECTOR, INDIAN CREEK NATURE CENTER

"Look over there! He must have been here LAST NIGHT," shouted a fifth grader as 25 youngsters surged toward a chip-ringed stump.

As some of the children felt toothmarks in the soft wood, others examined the chips. A few discovered beaver tracks and scratch marks in a nearby muddy place. An excited conversation buzzed about the new find.

Discovering beaver signs raised many questions among the students. How big is a beaver? Where is their dam? Where are they during the day? Continued careful observation answered some of the questions. Library time back at school will answer more.

The youngsters were all urban Iowa children on a day of adventure and learning at the Indian Creek Nature Center. Along with their teacher and a naturalist, they were discovering nature first hand, and they were having a ball!

To most Iowa fifth graders a beaver, deer or fox is something to read about or see while on a summer vacation in Colorado or Maine. Few would ever expect to find them within the city limits of Cedar Rapids.

The fifth graders were spending a full day outside with their teacher and a volunteer Nature Center naturalist. To the kids, they were on a field trip. To the teacher, the class was learning every bit as much as they would in school, and who could ever duplicate this experience in a classroom?

Experiencing the environment is what the Indian Creek Nature Center is all about. Located on Cedar Rapids' south-east side, the eight-year-old facility is attracting increasing numbers of visitors.

To older Iowans the enthusiasm today's children show in nature might come as a mild surprise. Older generations grew up in the Hawkeye State tending livestock, helping with crops, and enjoying the wildlife of nearby woodlots and fence-rows. Just a half century ago Iowa children were mostly rural, and they had the opportunity to receive a first hand education from nature. Today, despite Iowa's many prosperous farms, most Iowans live in cities or towns. Only a relatively small segment of our population still live on farms, and few children are able to experience nature in the manner of their parents and grandparents. Often a child's only escape from the city is when the family goes camping or when their father takes them hunting or fishing. Unfortunately, many Iowa youngsters even lack these experiences, and to them a deer or meadowlark is as inaccessible as an Alaskan moose or African antelope.

For over seven years the Nature Center has been giving children the opportunity to learn outdoors. Increasing numbers of school, scout, church, and other groups visit each year. Visitors are not only kids. On weekends Center naturalists sponsor over 125 public activities each year. They range from "how to" seminars on maple syruping, and cross-country skiing to star viewing, bobsled rides, and much more.

Once a large prosperous dairy, the 140 acres now used by the Center was purchased by the Cedar Rapids Parks Department in the late 1960's as a greenbelt. In 1973 the city leased an old barn to the private Nature Center, and development began by remodeling the hay loft and milking areas into an auditorium, office, exhibit gallery, rest rooms, and library. Five trail loops were constructed, and in 1980 they were declared the Cedar Greenbelt National Recreation Trail by the Department of the Interior. The only other National Trail in Iowa, the Sac and Fox, runs through the Nature Center and is maintained by the City of Cedar Rapids.

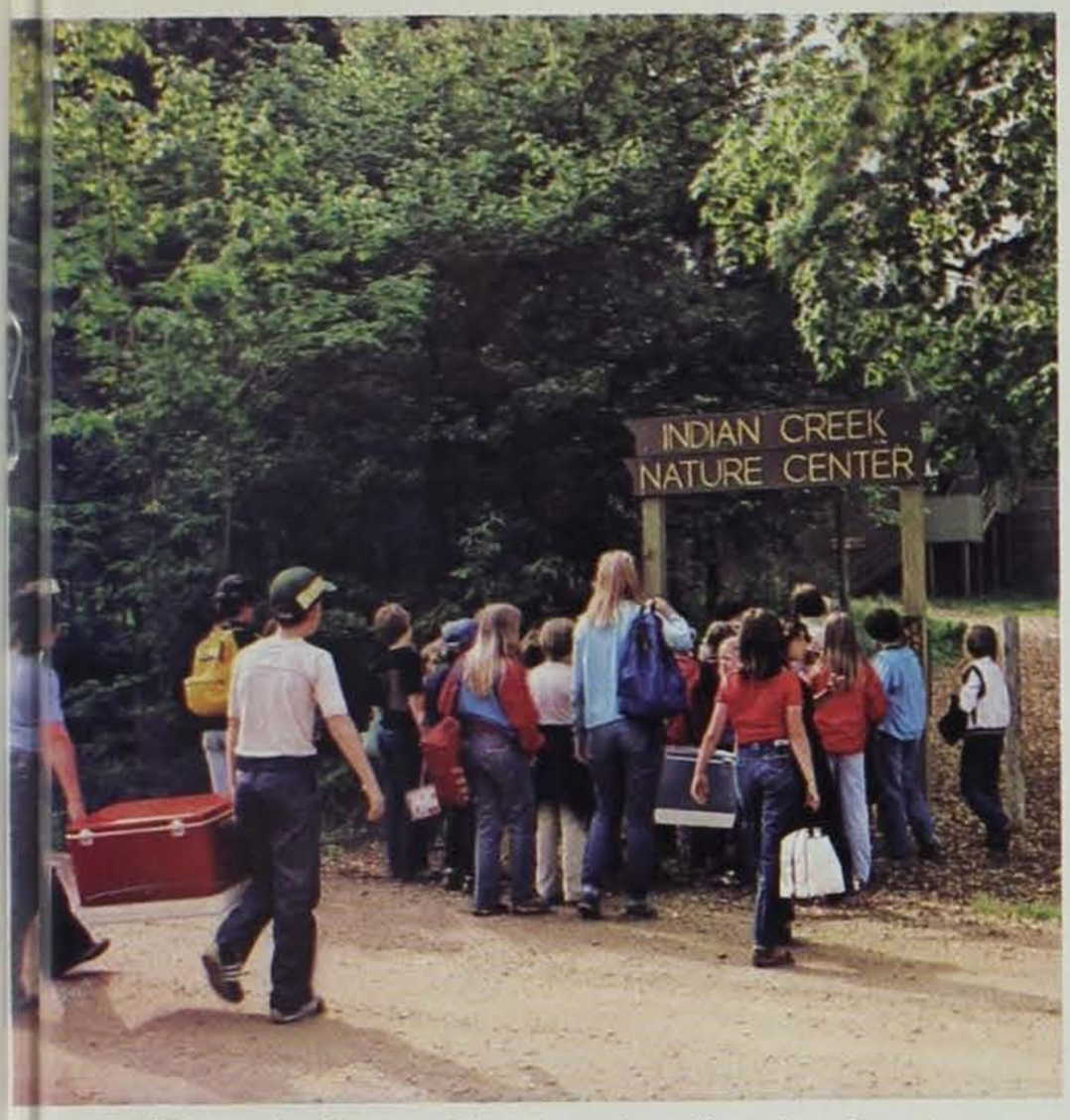
Because the Nature Center is within ten miles of over 120,000 people, it has become increasingly important in this era of expensive gasoline. Joggers, skiers, hikers, and nature photographers are often seen along the trails. All seem amazed at the diversity of plants and animals living so close to Iowa's second largest city.

Although the primary purpose of the Nature Center is education, it also maintains a unique area filled with Iowa plants and wildlife. Because timbered areas haven't been grazed by livestock in over a decade, delicate wildflowers and underbrush are beginning to recolonize. In addition to beavers, a large deer herd roams the greenbelt, and many visitors find tracks, buck rubs, and other signs of their presence.

Because of its unique facility and active program of environmental education, the Nature Center was declared a NATIONAL ENVIRONMENTAL STUDY AREA by the National Park Service in 1980. The only other NATIONAL ENVIRON-MENTAL STUDY AREA in Iowa is the Iowa Conservation Commission's facility in Springbrook State Park.

A nonprofit private organization, the Nature Center is funded by memberships, contributions and fees. It is located on the corner of Otis and Bertram Roads in Cedar Rapids. Hours of operation are from 8 a.m. to 5 p.m. Tuesday through Saturday, and from 1-5 p.m. on Sunday. Trails are open all daylight hours. For more information contact the Center at 6665 Otis Road S.E., R.R. 3, Cedar Rapids, Iowa 52401.

Photo by Carl Franks



A fifth grade class arriving for a day of outdoor learning

Learning outdoors — A snake or wild plant becomes more "real" when seen first hand.

Kakac (left) receives award from Al Farris, chief of Fish and Game.

The year 1981 has seen the retirement of two well-known Conservation Commission law enforcement officials.

In January, Ken Kakac, Superintendent of Law Enforcement, retired. He had served for over 25 years starting as a field officer and eventually winning the Shikar-Safari award for outstanding contribution in wildlife law enforcement.

This month Rex Emerson, District Law Enforcement Supervisor for S.E. Iowa, says goodbye. Rex should be familiar to all Conservationist readers in that he has written "Warden's Diary" since September of 1973. He had also served for over 25 years.

Those of us who worked with these two gentlemen wish them the very best during their retirement.

On the right, Emerson (Mr. Warden's Diary) says goodbye.

"Would You Straighten This Creek?"

by Barbara L. Nelson
WILDLIFE WORKER, RUTHVEN WILDLIFE UNIT

I HAD A MAN ASK ME THAT one day. He thought that perhaps he could farm another few acres, but wasn't sure if he really wanted to change that creek. He was paying taxes on the land and only receiving a small return on it through the cattle he let graze. In fact, they grazed so hard that he joked, "*You could spot a mouse at 30 rod.*" Next summer he planned to seed another pasture to switch grass where the stock could be put into good late season forage, thereby eliminating the over use problem. Now the question was whether to lend a little more land to cultivation and he was having some doubts. He remembered when his brother had straightened a stream and his kids had asked where the little minnows that used to congregate in the deep, sharp turns had gone. And he really didn't have a good answer when one of them wanted to know why they didn't see muskrats making their homes in the steep banks anymore and how come they couldn't find raccoon or mink tracks and what happened to the fox?

Within an hour he had answered his own question. No, that creek wouldn't be touched, because he remembered the evening he walked across the land and enjoyed the sight of the mallards taking flight.

Someone once said that, "*You can never go home again.*" What he meant was that home won't be the same as you remember it. He was talking about a farmplace in northwest Iowa that once had a big grove around the house and a nice slough to the west. Today the grove is gone, the slough drained, and all the beauty from silver maples in the fall lost forever. A linear ditch replaces the magical, snaking waterway that harbored shiners, creek chubs, and bullheads — all to the delight of a small child recently introduced to Thorton W. Burgesses' "*Jerry Muskrat.*" It would be more difficult now to find raccoon and mink that foraged for green frogs, fresh water clams, and other food items in the shallows. Impossible to find brown thrashers nesting under gooseberry bushes or warblers in the plums or a hawk perching in the cottonwoods, because all the bank vegetation expired under a bulldozer blade.

But, the experience that I had that made me see the truth in those words about never being able to go home again happened in western Massachusetts on a short visit. I figured I would take the dog across the pond for a walk in the woods to find out if the raccoons were still using the big ash tree. The surprise was that the woods was mostly a cemetary now and what didn't have tombstones on it had at least been cleared or was so covered with styrofoam flower boxes and ornaments that whatever native flowers adventuresome enough to poke out couldn't be distinguished from the plastic variety. Duplexes had sprung up, low income housing sprawled across town, and there were no more 'coon prints on the shore of our pond. My quaint New England town wasn't home anymore — just like that Iowa farmplace wasn't home anymore.

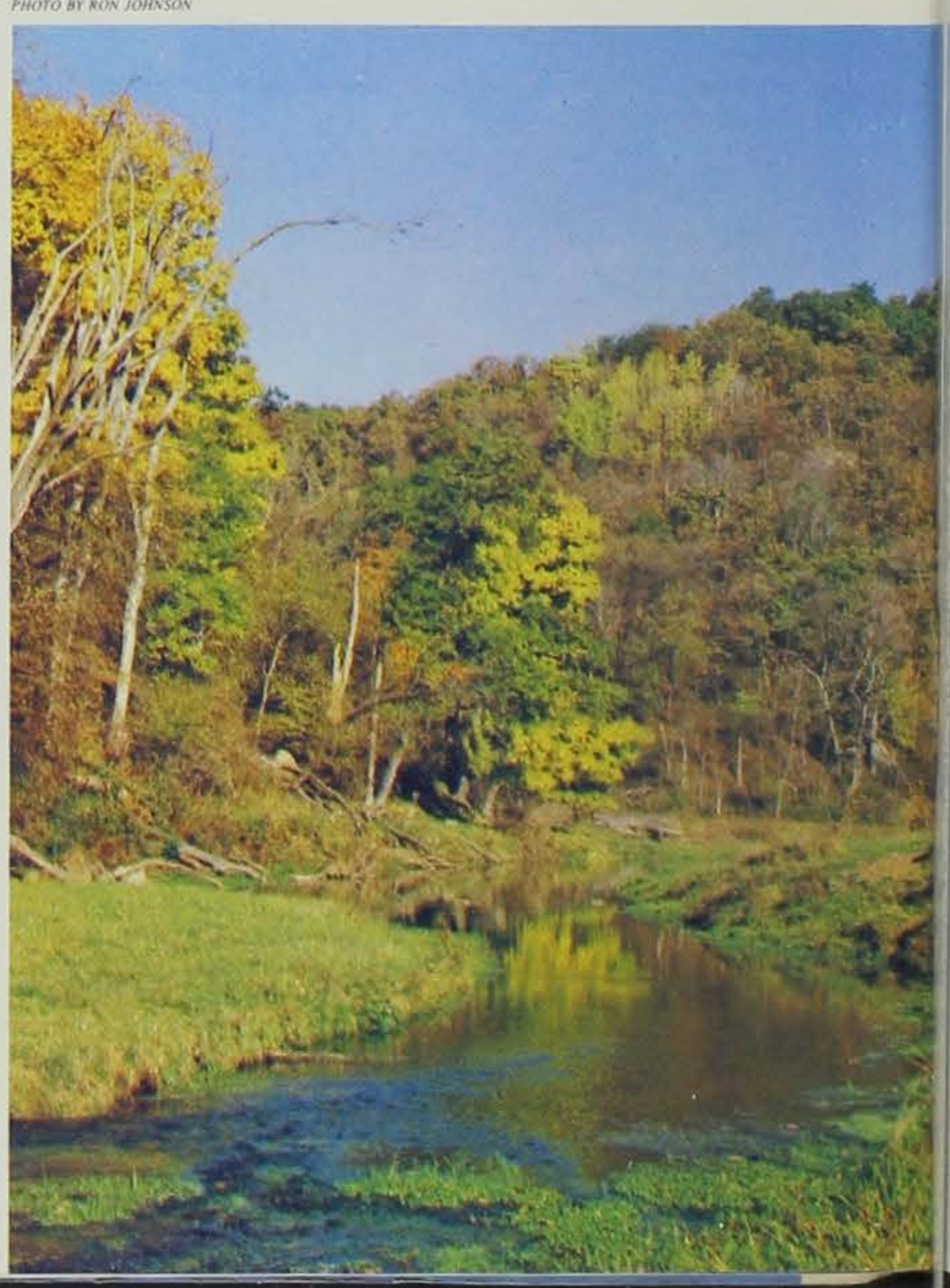
Wherever I go now I see the disruptive influence man has had on his own soil. It is all over the country and just because we live in the wide open spaces of Iowa it doesn't mean we are immune from degradating land use practices. We still drain marshes, bulldoze timber, plow prairies, and subvert streams. Look at what we have done to our rivers in the name of progress and disguised behind the words "flood and erosion control." In some cases we have created baby Grand Canyons because the meanders have been removed, causing flood waters to wash straight, thereby digging the channel deeper. Farther downstream, where the channel ends, the waters spread out, depositing silt.

Did you know that portions of northwest Iowa were once 70% water? Do you know that now we have only a very small percentage of that figure and that it is decreasing all the time? If it isn't stopped one day all the wetlands that are not in public ownership will be gone. We will have lost not only a huge variety of wildlife, but also a natural and very efficient filtering system that acts as Nature's own sponge for the flood waters. Wetlands help maintain water tables by recharging ground water aquifers, while the plant community filter pollutants.

There are thousands of examples where man has selfishly abused the land. The old land ethic is gone — we are not caretakers of the soil — we are pilferers of it. Can we do something about the destructive practices? Yes. But we have first got to become more enlightened about why we are alive and what our responsibilities are. We cannot continue to run around with paper bags over our heads, making believe that the earth supports only people and that since we have superior intelligence we know best and can use the land as we please. Because if we don't shape up, nature is going to put her own paper bag over our heads — permanently.

So someday when you look at that winding creek ask yourself if you have the right to disrupt the natural flow of life along the banks. Perhaps after enough reflecting you will consider yourself fortunate that your property is a calling card to wildlife, a place to be appreciated- a chance to go home again. □

PHOTO BY RON JOHNSON



Local Land Use Control Is No Control At All

LOCAL control is a lobbyist's way of saying, "Leave things as they are." In the 1920s, local control left Iowa in the mud long after Minnesota and Illinois had hard-surfaced roads. In the '40s, local control perpetuated several thousand country schools until the Iowa legislature required township districts to join and support a high school district.

Local control of land use since World War II has let urban development usurp the equivalent of two Iowa counties of farmland. And little thought has been given to preserving the best land to meet a growing need for food production. Unplanned development has left half the land within city limits idle. Plus, leap frog expansion has isolated many small tracts which are uneconomical for modern farming.

County zoning commissions have met with some success in routing development around prime agricultural land. However, almost a third (27) of Iowa's 99 counties do not even have a zoning commission. Nor can they be required to have one.

Under the pretext of preserving local control, several organizations have opposed meaningful land use legislation in Iowa. Ironically, these same organizations would have little political clout if they did not have a well organized state organization under strong, well-staffed leadership.

Correction of land abuses is not a popular political issue. The short term economic-interests of individual landowners and-developers often run counter to the public interest and long run consequences.

Farmers being outbid

The best farmland, like western Iowa's Missouri River valley where I live, is a preferred location for railroads and highways because construction costs are lower on the level land. Industries have preempted more good land to be near the barge, rail, and highway transportation.

Location is more important to industry or a housing development than type of soil. But quality of soil is critical for agriculture, and that should be recognized with appropriate restrictions on urban use.

In addition to an abundance of good soil, Iowa's Missouri and Mississippi river valleys have readily available irrigation water and a potential for raising high value vegetable crops. Urban development in the Sun Belt, shortages of water in the West, and increased transportation costs will likely result in Iowa attempting to become more self-sufficient in raising table crops.

Industry, even residential developers, will always be able to outbid farmers for land, because land costs are but a small part of their total investment.

When price alone dictates the use of land, the most intensive use, regardless of its best use, will prevail. Two parties, the buyer and seller, determine use of the land for years to come.

It is difficult for individual landowners to resist development, once a rural neighborhood, unprotected by land use restrictions, starts to go urban. Retiring farmers, with no family members in farming, find the offering prices attractive and are tempted to sell.

Rural blight precedes urban expansion. Higher taxes discourage new farm improvements. Livestock programs are phased out because of neighborhood pressure, and the empty buildings are no longer maintained —NOT EVEN PAINTED.

Worst of all, farmer services like grain elevators and machinery dealers lose customers and relocate or go out of business. Small towns are no longer farm oriented. Loyalty to cooperatives and farm organizations diminishes. Looking to the future, any further depletion of Iowa's agricultural land base, coupled with a growing concentration of land ownership, will make it even harder for beginning farmers to get a toehold.

Preserving farmland

Any restrictions on land use must take into account that Americans have a longstanding regard for private property rights, reinforced by the constitution. However, the pressure of a growing population on dwindling resources dictates consideration of the obligations of stewardship that go with the rights of land ownership.

Government intervention in developing land use policies is viewed by many as a bureaucratic intrusion on private property rights, all the more so because state and federal agencies, with the power of condemnation, have been some of the worst offenders in the conversion of ag land to highways, dams, and military installations.

Land use restrictions must be flexible enough to be adapted to local conditions and changes over time. Landowners who are restricted from selling agricultural land for other purposes at a higher price will expect compensation for the lost income.

Tax exemptions are one means of keeping land in agriculture. Iowa farmland assessments, based on productivity alone, help in this regard.

Some county zoning commissions in Iowa have discouraged nonfarm building on good agricultural land. The crop suitability ratings and soil classifications in the county soil map are used as a criteria. Building is also prohibited in flood plains, principally because of the hazard, but this restriction also tends to protect good, level cropland from development.

New York's plan

The state of New York has legalized the organization of agricultural districts as a means of keeping productive land in agriculture. New York farmers have now formed 100 agricultural districts encompassing about a million acres.

Under New York law, farm landowners in a local area may join together and agree to keep their land in agriculture. The plan with specific boundaries is submitted to local and state zoning authorities, and public hearings are held prior to approval. The covenant extends over an 8-year period, then the plan comes up for review.

Lower taxes are the principal inducement for a farmer to put his land in an agricultural district. The tax assessments are based on agricultural use rather than potential development value.

Release of land from an agricultural district can be obtained, but only after zoning procedures similar to the process by which the land was included. Penalty for release of land from a district before the end of the 8-year period is a 5-year pay back of tax advantages gained while in the district.

Agricultural districts allow farmers to take the initiative on future land use in a community instead of being knocked off by developers one at a time. It enables them to invest in farm buildings and other capital improvements with some assurance of a continuing operation. Rural community continuity also encourages elevators, implement dealers and other farm services to remain in the area.

Agricultural districts have a place in Iowa. They would be effective local control of land use and mesh well with the zoning commission which every county should have. Like a drainage district or a soil conservation district, they would be formed only where needed, and give farmers an opportunity to solve a common problem together, instead of remaining on the defensive alone. —*Herb Pike, Iowa farmer* □

YOUTH GROUP PROJECTS

Iowa youth groups are cooperating with the Iowa Conservation Commission on a project to sell subscriptions to the IOWA CONSERVATIONIST. For each one-year subscription sold, youth groups such as Boy Scouts, Cub Scouts, Girl Scouts, Brownies, Bluebirds, Campfire Girls, 4-H, church and school groups will retain 50¢ for the organization.

With this subscription effort, the Commission hopes to spread the conservation message by adding new names to the magazine mailing list. Revenue received from subscription sales is used to offset printing costs.

Youth group leaders who are interested in the IOWA CONSERVATIONIST Youth Group Fund Project may obtain complete information by writing to the Iowa Conservation Commission, Wallace State Office Building, Information and Education Section, Des Moines, Iowa 50319; 515-281-5971.

Banner Year for Turkeys

The 1980 turkey season was a great one for Iowa hunters. Not only were there many successful gobbler hunters, but 105 of them shot turkeys big enough to qualify for Iowa trophy turkey awards.

If that wasn't enough, the state record was broken again last spring. Robert F. Willson of Des Moines took a 28 lb. 5 oz. state record gobbler out of Lucas County, topping the old record by 5 ounces.

All indications point to another great year in 1981. If you were one of the lucky ones to shoot a turkey weighing 23 pounds or more you may enter it for inclusion on the 1981 list. You will also receive a certificate and colorful shoulder patch in recognition of your trophy. See your license package for details or write to Iowa Conservation Commission, I and E Section in Des Moines.

ALL-TIME TOP TEN

Name & Address	Weight (lb. oz.)	Date	County Taken
Robert F. Willson Des Moines	28 lb. 5 oz.	4-20-80	Lucas
Ronald D. Brown Burlington	28 lb.	4-22-79	Des Moines
L. N. Ertz Lake Mills	27 lb. 8 oz.	4-24-80	Allamakee
John Hockspeier Alta Vista	27 lb. 8 oz.	4-26-79	Allamakee
Roger Aukes Wellsburg	27 lb. 4 oz.	4-20-80	Lucas
Greg Smith Donnellson	27 lb.	5-3-75	Lee
Dennis W. Proctor Corydon	26 lb. 15 oz.	4-21-78	Lucas
Ron Johns Allerton	26 lb. 12 oz.	4-20-79	Lucas
Todd Poulson Swisher	26 lb. 12 oz.	4-20-79	Iowa
C. L. Current Monroe	26 lb. 9½ oz.	4-20-78	Monroe

1980 Certified Trophy Turkeys

Name & Address	Weight (lb. oz.)	Date	County Taken
Robert F. Willson Des Moines	28 lb. 5 oz.	4-20	Lucas
L. N. Ertz Lake Mills	27 lb. 8 oz.	4-24	Allamakee
Roger Aukes Wellsburg	27 lb. 4 oz.	4-20	Lucas
John Zane Hillsboro	26 lb. 9 oz.	4-18	VanBuren
Fred Baze Clarinda	26 lb. 8 oz.	4-19	Lucas
Glen N. Carico Carlisle	26 lb. 8 oz.	4-23	Lucas
Claudia Slaughter Lacona	26 lb. 8 oz.	4-24	Lucas
Dennis D. Maurer Waterloo	26 lb. 6 oz.	4-25	Allamakee
Virgil Dooley Centerville	26 lb. 4 oz.	4-17	Appanoose
David Bradley Richland	26 lb. 4 oz.	4-17	Jefferson
Oskars Liepa Des Moines	26 lb. 3 oz.	4-19	Lucas
Jerome R. Miller Fairfield	26 lb.	4-20	VanBuren
Jim Woolery Des Moines	26 lb.	4-22	Clarke
Terry Hobbs West Point	25 lb. 14 oz.	5-3	Lee
Roger D. Ruggles Iowa City	25 lb. 10 oz.	4-27-79	VanBuren
Joseph B. Meder Solon	25 lb. 9 oz.	4-26	Clayton
John Deemer Grand River	25 lb. 8 oz.	4-19	Decatur
William T. Gay Des Moines	25 lb. 8 oz.	4-19	Lucas
Bob Millard Ottumwa	25 lb. 8 oz.	5-7	Wapello
Jack Renner Waterloo	25 lb. 4 oz.	4-18	Clarke
Dean Arnold Russell	25 lb. 4 oz.	4-23	Lucas
Gordon H. Boyvey Des Moines	25 lb.	4-17	Lucas
Robert K. Feeley Cincinnati	25 lb.	4-19	Appanoose
Ross Fetzer Victor	25 lb.	4-24	Lucas
Joe Herman Solon	25 lb.	4-20	Iowa
William J. McDonald Albia	25 lb.	4-19	Monroe
Roy McGuire Des Moines	25 lb.	4-22	Clarke
Merrit Parsons Bettendorf	25 lb.	4-26	VanBuren
David Pedersen Ankeny	25 lb.	4-25	Clarke
Thomas F. Tedore Cedar Falls	25 lb.	4-20	VanBuren
Gary Stearns Walford	25 lb.	4-25	Iowa
Jim C. Woodard Oskaloosa	25 lb.	4-22	Appanoose
Loras Woodard Boone	25 lb.	5-2	Lucas
Willand S. Elliott Wever	24 lb. 12 oz.	4-17	Des Moines
Emily Liepa Des Moines	24 lb. 12 oz.	4-20	Lucas
Patrick T. Warner Norwalk	24 lb. 12 oz.	4-24	Lucas
Larry C. DeBow Davenport	24 lb. 11 oz.	5-4	Clarke
Donald D. Jones Marengo	24 lb. 8 oz.	4-20	Decatur
Richard L. Adkins Adel	24 lb. 6 oz.	5-1	Ringgold
Charly Stills New Virginia	24 lb. 6 oz.	5-10	Clarke
George Killian Guttenberg	24 lb. 5 oz.	5-3	Clayton
Stan Russell Des Moines	24 lb. 5 oz.	4-18	Lucas
Darrell L. Dunahoo Story City	24 lb. 4 oz.	4-26	Davis
Harold Hagan Monroe	24 lb. 4 oz.	4-18	Wapello
Larry Reighard Burlington	24 lb. 3 oz.	4-17	Des Moines
John H. Millspaugh Lockridge	24 lb. 1 oz.	5-4	VanBuren
Ronald W. Reihmann Middle	24 lb. 1 oz.	4-18	Iowa
Davis Agnew Nodaway	24 lb.	4-24	Mills
Dr. Jerry A. Barnett West Des Moines	24 lb.	5-3	Clarke
John Brackin Waterloo	24 lb.	4-19	VanBuren
James G. Clinton Guttenberg	24 lb.	5-3	Clayton
Orrin G. Fetzer Victor	24 lb.	4-24	Lucas
Jack C. Hahn Middle Amana	24 lb.	4-23	Iowa
Jimmy Hoover Rhodes	24 lb.	4-19	VanBuren
Dick Johnson Moravia	24 lb.	4-17	Appanoose
Roy R. Miller Kalona	24 lb.	4-18	VanBuren
Craig W. Parker Des Moines	24 lb.	5-4	Lucas
Gene Pont Delhi	24 lb.	5-8	Delaware
Bill Redlinger Kalona	24 lb.	5-2	VanBuren
Douglas Seuferer Norwalk	24 lb.	4-22	Lucas
Gene A. Turk, Sr. Ankeny	24 lb.	5-10	Lucas
Pete Kluesner New Vienna	23 lb. 15 oz.	5-5	Clayton
Charles J. Barnett West Des Moines	23 lb. 14 oz.	4-24	Clarke
Jerry Sharp Marquette	23 lb. 14 oz.	4-24	Clayton
Ron Kelley Council Bluffs	23 lb. 12 oz.	4-24	Pottawattamie
Donald J. Lent Dubuque	23 lb. 12 oz.	4-24	VanBuren
Harlan D. Strange Elkader	23 lb. 12 oz.	4-26	Clayton
Don VanLaar Grand River	23 lb. 12 oz.	4-30	Decatur
Terry W. Crow Centerville	23 lb. 8 oz.	4-26	Appanoose
Bill Denly Farmington	23 lb. 8 oz.	4-26	Lee
Marion M. Douglas West Des Moines	23 lb. 8 oz.	5-10	Clarke
Dennis Fick Des Moines	23 lb. 8 oz.	4-18	Lucas
Matthew A. Gahn West Burlington	23 lb. 8 oz.	4-22	Henry
John J. Guyer Harcourt	23 lb. 8 oz.	4-19	Clarke
Lester L. Hansel Garber	23 lb. 8 oz.	5-17	Allamakee
Duane Howieson Des Moines	23 lb. 8 oz.	4-18	Monroe
Lonny Koehn Victor	23 lb. 8 oz.	5-4	Washington
Eugene L. Larson Cedar Rapids	23 lb. 8 oz.	5-5	Linn
Dr. David J. Randall Lucas	23 lb. 8 oz.	4-26	Lucas
Randy Revelle Dubuque	23 lb. 8 oz.	4-30	Dubuque
Greg Smith Farmington	23 lb. 8 oz.	4-24	VanBuren
Jim Wooley Chariton	23 lb. 8 oz.	4-24	Lucas
Robert Hines Hamburg	23 lb. 5 oz.	4-22	Fremont
Larry L. Brown Seymour	23 lb. 4 oz.	5-1	Wayne
Merlyn E. Brown, Sr. Monticello	23 lb. 4 oz.	5-1	Jones
Daniel J. Haumschild Ames	23 lb. 4 oz.	4-19	Lucas
James M. Jensen Rockwell City	23 lb. 4 oz.	4-19	Lee
Joseph Laird Knoxville	23 lb. 3 oz.	4-18	Monroe
George W. Manahan VanWert	23 lb. 3 oz.	5-10	Decatur
Daniel J. Peitz Ft. Madison	23 lb. 2½ oz.	4-17	Lee
Robert W. Johnson Norwalk	23 lb. 2 oz.	5-9	Clarke
Delbert E. Jones Muscatine	23 lb. 2 oz.	4-26	Monroe
James R. Olson Lansing	23 lb. 2 oz.	4-29	Allamakee
Jerry L. Roush Ottumwa	23 lb. 2 oz.	4-28	Wapello
Scott Aukes Wellsburg	23 lb.	4-19	Lucas
Dale Barnhill Perry	23 lb.	4-18	Lucas
Seth Eimen Homestead	23 lb.	4-26	Johnson
Randy D. Fett Cedar Rapids	23 lb.	4-18	VanBuren
Fred Illingworth Newton	23 lb.	4-20	Monroe
Lester R. Lobdell Montpelier	23 lb.	5-9	Appanoose
Rodney Moser Dubuque	23 lb.	4-25	Clayton
Wilbur W. Pudil Swisher	23 lb.	4-29	Johnson
Garvin Roth Farmington	23 lb.	4-20	VanBuren
Randall VanWinkle Houghton	23 lb.	4-23	VanBuren

RESTORATION OF THE WILD TURKEY TO IOWA – Part III

Sustained Success Far Beyond Expectations.

by TERRY W. LITTLE
WILDLIFE RESEARCH BIOLOGIST

"Wild turkeys common in Iowa? Nonsense! Wild turkeys might survive in a few places in northeast and southern Iowa, but they never will be numerous here! You have to go to Texas, Alabama, Pennsylvania or somewhere else in the South or East if you want to find good turkey hunting. They need huge tracts of undisturbed timber, and it's foolish to expect they could ever live in most of Iowa!"

Strange and outdated as this statement may seem today, it represented the majority opinion of competent wildlife biologists and informed sportsmen just 20 years ago. In the early 1960's few professional wildlifers thought the wild turkey had more than the slimmest chance of inhabiting Iowa's remnant forest lands. There just didn't seem to be enough timber left in the state to support a bird known for its reclusive nature, long-range wandering and exclusive dependence on the nut and seed crops produced by large forest tracts.

By 1970, limited successes with experimental releases seemed to indicate there was sufficient timber left in northeast Iowa's unglaciated ridges and river valleys and in portions of southeast Iowa's rolling hill country to support museum populations. There might be turkeys there for occasional viewing by hikers and bird watchers, and wildlife lovers could have the consolation of knowing one component of Iowa's native fauna had been restored to at least a portion of its former range. Little thought was given to turkey hunting seasons or widespread expansion of turkey populations outside the large timbered areas.

By 1980, however, wild turkeys had established thriving and rapidly expanding populations in 80% of Iowa's forests, densities (number of turkeys per square mile of forest) were higher than was reported ffrom most of the traditional turkey range, 2,600 gobblers had been harvested by spring turkey hunters, hunter success rates were among the highest in the nation, and fall, any-sex turkey seasons were being contemplated.

How could this have happened? How could the experts have been so wrong and Iowa have been so right for the wild turkey? Stay with me and I'll explain why "the book" doesn't always contain the right answers, and how an organization willing to take a small gamble hit the jackpot with one of the most popular wildlife management programs in recent memory.

In two earlier articles published in the *Conservationist (July and August 1976)*, I summarized the history of the wild turkey in this nation and how it related to Iowa's wild turkey restoration program. I explained that the wild turkey was a numerous and widespread forest dweller native to most of the eastern half of the United States and parts of the Southwest. Turkeys were eliminated from most of their ancestral range in the 19th century by a combination of indiscriminate, subsistence hunting and timber clearing. They occupied only 12% of their former range by 1920.

Abandonment of unproductive farmland in mountainous regions of the South and East, leading to the regrowth of forest land, and the control of subsistence hunting by state conservation agencies which were born in the early 20th century, produced a favorable environment for the wild turkey's return. By 1975, wild turkeys could be found on 480,000 square miles of habitat where they had been absent for generations and were hunted in 39 states. This rebirth of a native wildlife resource was a result of intensive trap and transplant programs conducted by state wildlife agencies with monies derived from hunting license sales and taxes on sporting arms and ammunition. I emphasized these restoration programs were successful only because suitable habitat was once again available, and because wild trapped turkeys were transplanted and released, not by wholesale releases of inferior farm stock.

In summarizing Iowa's restoration efforts to that point, I stressed similarities between the fate of the wild turkey in Iowa and events on a national scale. Turkeys were extirpated from Iowa by 1900 and early attempts using game farm stock and turkeys from the Southwest were unsuccessful. Beginning with the importation of the native eastern wild turkey from Missouri in 1966, however, the entire future of our turkey resource turned around. By the time the previous articles were written in 1976, the initial two releases of Missouri turkeys in Shimek Forest (Lee County) and Stephens Forest (Lucas County) had done well. Turkeys were scattered over several square miles at each site, numbering perhaps 1,000 birds combined and birds had been transplanted from these populations to 19 additional sites in southcentral and southeastern Iowa. Two very successful spring hunting seasons had been held. In 1975, a trade was initiated with Missouri for 250 additional wild trapped turkeys in exchange for 5,000 pheasants raised at the ICC's game farm at Boone. Fourteen sites were stocked in Allamakee, Clayton and Fayette Counties in 1975 and 1976, representing the first restoration efforts in northeast Iowa using eastern turkeys, and 3 releases were made in the loess hills of western Iowa.

In spite of these early successes, my attitude at that time could best be described as cautious optimism. To quote: "The success or failure of the many new releases will determine just how much of the state can support wild turkey populations once again, but it is already apparent that several areas are capable of maintaining good numbers of these large and beautiful birds . . . The only timber areas not being considered for stocking at this time are the extremely narrow river drainages extending into the northcentral and northwest portions of the state, and some small isolated blocks of timber . . ."

Cautious optimist indeed! In retrospect, I now look like a combination of Ebeneezer Scrooge and Darth Vader. In the ensuing 4 years, turkey populations in Iowa have literally exploded, surpassing the wildest expectations of whomever proposed experimenting with wild turkey restoration in the first place. By 1980, 1,144 eastern wild turkeys had been released at 78 sites scattered throughout the state (Figure 1), even into those seemingly unsuitable northern Iowa river drainages. About half of the release stock came from Missouri and half from trapping efforts in the two southern Iowa state forests. While some of the releases are too new to evaluate, none has yet failed to produce viable populations capable of continued growth and disper-

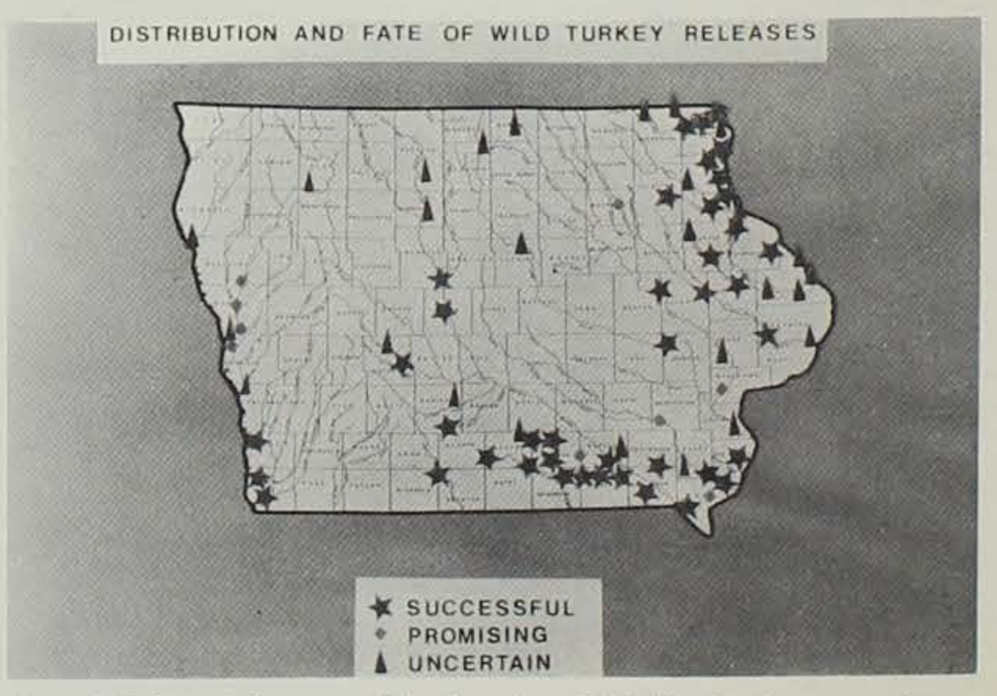


Figure 1. Releases of eastern wild turkeys since 1966. Sites listed as uncertain were made too recently to determine their fate at this time.

sal. Wild turkeys are currently well established on a quarter million acres of forest land around the earliest release sites in southern Iowa and are rapidly expanding into an additional ¾-million acres in northeast, western and central Iowa. Turkey densities in established populations are extremely high, reaching 80-100 birds per square mile of forest and averaging at least 20 per square mile, in portions of southern Iowa. In recently stocked areas densities are perhaps half the latter figure. These densities are 2-10 times higher than is generally reported from states with traditional turkey habitat.

Turkey hunting opportunity has expanded right along with the increase in turkey numbers. From a low of 450 permits and 113 gobblers harvested in the first season in 1974, seasons have been liberalized and new areas opened as release sites developed huntable populations. By 1980, 4,110 licenses were issued and 988 gobblers bagged. The resultant 27% hunter success rate is among the highest in the nation.

Virtually every portion of Iowa with turkey habitat remaining had some local hunting opportunity in 1981 (Figure 2). Spring gobbler hunts were chosen for the first hunting seasons because turkeys are promiscuous, with only the largest males securing harems. Shooting excess, nonbreeding males thus has no impact on growth and dispersal of recently introduced turkey populations.

Figure 2. Areas open to spring gobbler hunting in 1981. Zone 1 is Lucas and Whitebreast Units of Stephens State Forest. Zone 7 is Volga Recreation Area and Yellow State Forest.

These impressive accomplishments still do not explain why so many experts were so wrong. How could Iowa not only be suitable for wild turkeys, but actually have what may turn out to be ideal turkey habitat, when initial expectations were so limited? I believe two explanations are involved, one philosophical and one biological. Wildlife biology is a new science, its total existence covering barely a single human lifespan. The period of drastic decline in turkey populations predates by nearly a century the era of observation and quantification of wildlife populations which marked the first years of wildlife biology. Biologists in the mid 20th century concerned about the wild turkey's fate were exposed only to turkey populations which had survived the onslaught of white settlement by retreating to the most inaccessible regions, generally in mountainous terrain unsuitable for agriculture. Thus the perception that wild turkeys needed vast reaches of continuous timber and could survive only on the natural food items they produced, overlooked the fact that these remnant habitats were not representative of all primitive turkey habitats. In fact, if one examines the journals of early settlers, there is every reason to believe turkeys were common in areas of mixed forest and grasslands, even as far west as Iowa and parts of Nebraska. They were highly vulnerable in the more isolated woodlots, however, and disappeared quickly from these regions under persecution from settlement.

The biological factor involved seems to be that turkeys appear much more adaptable in their choice of food items than was previously believed. Two years of intensive research by ICC and Iowa State University personnel at Stephens Forest, near Lucas, effectively demonstrate that turkeys are capable of substituting agricultural grains for their native foodstuffs. When natural mast crops are depleted in mid to late winter, turkeys move readily to harvested corn and soybean fields adjacent to timber and forage right along with cattle and hogs, taking full advantage of the intrusion of agriculture into their forested environments. Since much corn is wasted in normal harvesting activities, agricultural fields provide an abundant supplemental food source which sustains turkey flocks through what otherwise would be a major period of stress. In fact winter seems to be essentially an unimportant mortality period for southern Iowa turkey flocks. Hayfields and moderately grazed pastures provide good nesting and brood rearing habitat, which, along with low winter mortality, probably explains why our turkey densities are so high. It now appears that perhaps a 50:50 ratio of timber to properly managed croplands may provide better turkey habitat than large blocks of continuous timber.

So what lies ahead for the wild turkey in Iowa as we enter the third decade of restoration? Certainly there are more reasons to be more optimistic than there was even 4 years ago. It now appears that nearly all of Iowa's remnant 1.5 million acres of timber may be satisfactory turkey habitat if suitable nonforested habitats are also available. The ICC recently identified 52 additional potential release sites in scattered, small timber blocks and will continue stocking them until evidence indicates the minimum timber requirements necessary to sustain viable populations have been surpassed. Most of these sites are in central and northern Iowa. Hunting opportunity will also increase as huntable populations develop in new areas. In 1981, 5,055 licenses were available to gobbler hunters, and perhaps 10,000 spring hunters could eventually be accommodated if populations continue to build. Because of the high turkey densities reached in southern Iowa, fall, any-sex seasons have been proposed for the first time for the fall of 1981. In the near future everything appears bright.

Because biologists are basically a conservative lot, perhaps because nature has a way of laying waste to their best plans, I still find reasons to be concerned for our turkey flock. Newly introduced populations of many species often overshoot the carrying capacity of their environment, increasing rapidly to very high levels and then falling back to somewhat lower but stable levels. Our oldest release sites are just 14 years old, most are less than 8 years old, and such a decline in numbers should occur in the near future, if it happens at all. Of much greater concern, however, is the accelerated loss of timbered habitats are inflated land prices fuel the demand for monetary return from all types of land. Nearly 2% of Iowa's forests are cleared each year to produce more agricultural land. If this trend continues, the ong range future of the wild turkey in Iowa is much more bleak. Turkeys cannot survive the permanent loss of habitat.

Whatever the eventual outcome of this program, it has provided a ray of hope in what seems like a perpetually bleak picture for Iowa's wildlife resources. Conservationists often become despondent over fighting a constantly losing battle to retain wildlife habitat. The wild turkey's recent history in Iowa offers a refreshing chance to point out what could be accomplished with sound resource management programs if they were allowed to function.

The closing statements from the 1976 articles are still appropriate today. "The objective of the Conservation Commission's turkey restoration program is to put turkeys back into all suitable habitats so that as many Iowans as possible can hear a wild gobbler in the spring and see an old male strut his ritual dance in front of a harem of hens." "The restoration of the wild turkey to Iowa is truly an amazing story and one whose final chapters still remain to be written. Nevertheless, Iowans . . . have something positive and encouraging to look forward to . . ."

Fish Diseases and the Problems They Cause at the Rathbun Hatchery

by Donna Hanen
FISHERIES TECHNICIAN

INTENSIVE FISH CULTURE is very much like any other Iowa livestock operation. Young fish are placed in an enclosure such as a pond or raceway, fed a special diet consistent with their size and body weight, and when they reach the desired size they are "harvested" and stocked in lakes, streams, and rivers. A well-educated livestock producer once pointed out to me what he believed to be a major difference between the two operations. "*Fish,*" he insisted, "*don't get sick.*"

I can't think of a single person at the Rathbun hatchery that doesn't wish he was right. Unfortunately, fish *do* get sick. They are susceptible to nearly every type of disease that plagues higher animals, plus a a few more due to their aquatic environment. Disease can be found in hatcheries for several reasons. Infection spreads rapidly in the crowded conditions of intensive culture. Also, there has been little well-coordinated research of fish diseases, especially those of warm water species. The Rathbun hatchery is the first to rear warm water fish intensively, and is itself a new facility. Thus, it has taken a few production seasons to identify problem sources and determine the most effective solutions.

A general definition of disease is simply the opposite of health, whatever the cause. A more descriptive definition would include the loss of an entire body function or one of its systems. Diseases are normally classified into one of two categories: infectious or non-infectious. Infectious diseases are caused by the action of a living organism. Non-infectious diseases, on the other hand, are caused by non-living agents. These categories can be further broken down into classifications which tell more about the particular problem at hand. For instance, types of infectious diseases include bacterial, viral, parasitic, and mycotic (plant) disturbances. Non-infectious examples are those caused by nutritional and environmental problems.

Bacterial infections are usually the most rapidly-spreading diseases, and often become a problem when the water temperature is relatively high. They can either be cutaneous — occurring on the skin or gills of the fish, or systemic — internal infections that usually target a body pathway such as the blood or the intestine. Because of the small size of the organisms and their sometimes elusive nature, this type of disease can be difficult to diagnose.

Fortunately, viral diseases are rarely seen in Iowa fish. Viruses can only be grown in living tissue, necessitating culture by a professional laboratory. For this reason, cases are not easily confirmed. Also, as with all viral problems, no method of treatment is yet effective. Viral infections seem to be stress activated, and though they do occur in wild populations, they do not cause severe losses.

The disease Iowa fishermen are most likely to encounter is parasitism. Fish parasites range in size from microscopic organisms to common leeches, roundworms, and tapeworms. While these creatures are rather unsightly and make the fish pretty unappetizing, a parasite's life depends on the health of its host. Thus, in the wild they seldom endanger either the individual fish or the population. Also, most parasitic problems are secondary in nature, appearing after the fish has been weakened by a wound or a bacterial infection. Parasites may cause death by sapping off too much of the host's food supply, becoming so numerous at a site such as the gills that they cause blockage of passages, or by destroying localized tissue through their feeding action.

The last category of infectious diseases is that of mycotic disturbances. The organism responsible for this disease is a slime mold, more commonly referred to as fungus. Like parasitism, it occurs as a secondary infection, and this particular organism lives on dead or dying tissue. It is commonly seen on fish eggs and fish that have been irritated either chemically or by another organism. Death is caused by blockage of the respiratory pathway (mouth, gills), or by destruction of the protective slime coating of the fish.

Non-infectious diseases are much more difficult to diagnose than are infectious diseases. Often a major part of diagnosis is discovering what the cause is *not*. Nutritional diseases are the result of vitamin-deficient diets, amino acid imbalances, or excessive unsaturated or oxidized fats in the diet. Improper fat content causes a condition called liver lipoid disease, where undigested fats are stored in the liver and reduce its function. Hatchery-reared fish are fed a high quality product, and fortunately these diseases are relatively rare. Sadly, malnutrition is much more common in wild fish populations.

The other type of non-infectious disease comes under the broad heading of environmentally-induced conditions. These are generally the hardest types of problems to detect, since there are numerous factors to consider. Also, fish may react differently to

(PHOTO BY WAYNE LONNIN

Channel catfish infected with* Flexibacter columnaris.** ***Note saddle-like patch around dorsal fin.

In more advanced cases of* Aeromonas hydrophilia** ***infections, hemmorhage is followed by gray and red lesions on the skin, as shown here.

(PHOTO COURTESY OF AUBURN UNIVERSITY)

Catfish infested by* Ichthiopthirius.** ***White bumps on body surface are cysts.

(PHOTO BY CHARLES SUPPES)

a single factor than when the same factor is combined with others. Detrimental environmental factors that are constantly present are involved in most other disease processes as well. Some of the conditions which must be considered include temperature, dissolved oxygen, nitrate-nitrite concentrations, pH, water inflow, water hardness, organic debris, and fish behavior. Diagnosis of environmentally-induced diseases is very time-consuming and may never result in complete accuracy.

The principal species of fish reared at the Rathbun hatchery is the channel catfish, and since this fish is at the hatchery year 'round we have had the opportunity to identify several disease problems in our populations. Some of them are catfish diseases, while others are not so selective of their hosts and affect other species as well.

Bacterial problems have caused some of the more serious outbreaks among Rathbun's catfish. One of the most common of these is columnaris disease, caused by the organism *Flexibacter columnaris*. This cutaneous infection is characterized by saddle-like patches on the backs of the fish, which are actually areas of destruction of the slime coating. If untreated, the bacteria may work deeper into the body destroying tissue as it passes, or it may spread over the entire body surface destroying the slime coating completely. Without this slippery barrier between the fish and its environment, its "saltier than water" composition will cause it to retain water and eventually die of kidney failure. Fortunately, if detected early, this disease is relatively easy to control.

Two species causing systemic bacterial infections have also been a problem at Rathbun. Disease is caused by organisms of the *Aeromonas* and *Pseudomonas* genera, often occurring together. Bacterial action varies somewhat with the size of the fish infected. In small fish they cause a condition called septicemia, or infection of the bloodstream. Vessel walls are broken down by the organism and the fish dies from internal bleeding. In larger fish, the organism attacks the digestive system and congregates in the intestine, causing an eroded anal opening and a cessation of feeding activity. One particularly interesting disease occurs most frequently in brood stock. The infection causes an unusual protrusion of the brain through an ulceration in the top of the head. Again, if detected early, these problems can usually be controlled.

Since parasites are almost always present in the water, parasitic infestations remain a potential problem at Rathbun. Most of the organisms that cause problems are microscopic protozoans, and though small, they are capable of building up large populations quickly. Two conditions caused by parasites are most often seen in small fish. These are

Continued on Page 22

WILDFLOWERS OF THE MONTH

Two Troutlilies

by Dean M. Roosa and Sylvan T. Runkel

PHOTOS BY RANDALL AND TOMMA LOU MAAS

THIS MONTH'S WILDFLOWERS belong to the lily family, thus they have 3 sepals, 3 petals, 6 stamens and a superior ovary. One you should find growing in a woodland near your home; the other you may never see in Iowa.

White Troutlily

(Erythronium albidum)

Also called 'Dog-tooth violet' and 'Adder's tongue', the White troutlily (*Erythronium albidum*) is one of our most common spring woodland flowers. It probably grows in every Iowa county and sometimes in such quantity that it is impossible to walk in a mesic woodland without stepping on the leaves of one.

Though the leaves often form a nearly solid carpet, the flowers are scattered — the reason for this is that it requires seven years to produce a blossom.

The leaves, mottled with purplish brown markings, achieve a length of about a foot, measured from the deeply buried bulb. These leaves are produced singly until the year the plant flowers, when two leaves are formed.

The bulbs of troutlilies were used for food by many tribes of Indians. However, often bulbs of poisonous plants are found growing in close proximity, making accidental poisonings possible.

Yellow Troutlily

(Erythronium americanum)

As rare as the preceeding species is common, the Yellow Troutlily (*Erythronium americanum*) is found only in a few northeast Iowa counties. In fact, it was thought extirpated until a sizeable population was found in Fayette county in 1978.

In size, habit and appearance of the leaf, this species closely resembles the white troutlily; the flowers, however, are bright yellow with highly visible maroon stamens. These blossoms also require seven years' growth before appearing.

These two species present a mystery — much alike in appearance, habitat and phenology yet one is extremely common, the other extremely rare. Why? To date it is an unanswered question.

If you should find this species growing in an Iowa woodland, enjoy it but do not pick it. The blossom you are enjoying took years to form. If you are sure of the identification, we would like to know its location.

PHOTO BY JERRY LEONARD

by John Klein

RASPBERRIES ABUNDANT

For a real treat, Nature has provided wild raspberries free for the picking. It will soon be time to search for these juicy little fruits because they usually rippen in late June.

Wild Raspberries grow on a long straight shoot. The leaves are green on top but silver underneath. The berries are usually above the leaves and are easily visible. However, once you have picked the top berries, look in the foliage for more.

You will soon find that the raspberry stalks have thorns for self-protection. Be sure to wear appropriate clothing to protect yourself from these thorns.

The most visible berries are a bright red. These red berries are not ripe and should not be picked. They will only taste sour. As the fruit matures, the red berry turns to a violet, then purple. When it is ready to pick it will be black. At the peak of sweetness, the black berries will almost fall off their stem into your hands. Only the fruit will pull off. The stem and center of the berry stays on the stalk. This makes the fruit ready to eat, with only washing necessary. Many berry pickers even forgo the washing and eat them right from the stalk.

Fresh raspberries are good on homemade ice cream or on breakfast cereal. They are a treat by themselves too. They can be made into jams, pies, cobblers, or crisps. The berries can be frozen easily for later use.

The best places to find berries are in moist ravines or ditches. They require moisture, but also require full sunlight. They won't be found in forests, but will be along the edge and low open areas.

A big patch of raspberries is a true blessing. Picking is usually easy because the berries are readily seen. With the continued use of aerial herbicides, many good berry patches have been lost due to chemical drift. Clearing of odd corners and other fringe wild areas on a farm has also eliminated good berry patches.

The berries of raspberry and related species are the top summer food for wildlife. Pheasant, bobwhite quail, and almost all songbirds use them for food. Raccoons love the berries also while deer and rabbit will eat the leaves and stems. In winter, the dried fruit is eaten some, but the best advantage is shelter for wildlife. The thorny brambles of raspberry stalks hidden low in ravines provides excellent protection from predators and weather.

Raspberries are related to many similar plants, all called blackberries as a group. Experts in the U.S. do not agree on how to divide these plants into species. Botanists in this country say there are between 50 and 390 different types. In Iowa, the main berries for humans are the species of raspberries, blackberries, dewberries and thimbleberries.

Berry patches are decreasing with the push for "good-looking" agricultural land. This hurts the wildlife, of course. But one taste of a wild raspberry pie and it is easy to see that the loss of these patches is a direct loss of one of nature's free gifts to us all. □

DISEASE *(Continued from Page 21)*

trichodiniasis, caused by a species of *Trichodina*, and chilodonelliasis, caused by a species of *Chilodonella*. *Trichodina* is usually found on the gills, where it injures the epithelium to the extent that respiratory exchange is no longer possible. *Chilodonella* can attack either the gills or the slime layer of the fish. It can often be detected by a bluish film over the body, and usually causes fish to stop feeding. If untreated, affected fish may starve to death.

Larger fish are more frequently the victims of ichthiopthiriasis, a disease caused by the organism *Ichthiopthirius*. A common name for this disease is simply "ich". There are several stages in its life cycle, and the lower the water temperature the longer it takes to complete the cycle. As a result, it can be very difficult to eliminate all stages. It can encyst on the body or gills, causing small white bumps that are easily visible. The infective stage can only be seen with the aid of a microscope, and can cause severe tissue damage with its burrowing habits. Again, early diagnosis and treatment can usually control most parasitic infestations.

The majority of mycotic infections are caused by the fungus *Saprolegnia*, and this is the organism found at Rathbun. As earlier stated, these infections are usually secondary in nature. In fish eggs, death is caused by respiratory obstruction — no oxygen can get inside to the embryo. Removal of unfertilized or dead eggs and chemical treatment usually minimize this problem.

The treatment of any disease naturally depends upon an accurate diagnosis. Fish at Rathbun are watched very closely, and personnel are trained to recognize symptoms of major diseases. An early diagnosis is as important as an accurate one, since most diseases have such great potential for rapid increase. During the production season and when conditions are optimal for outbreaks, mortalities are recorded on a daily basis. Live healthy fish are examined for general conditions as well as affected fish. To determine their tolerance to treatment, a small number of fish are first experimentally subjected to the chemical prescribed. A method that kills fish as well as disease organisms is avoided. Also, since hatcheries are limited to the types of chemicals they can use, the ideal treatment is prevention. In addition to constant observation, all fish-handling equipment, protective clothing, and containers are disinfected before and after use.

Proper planning of fish densities, maintaining proper water flow, and feeding the correct rations, plus a "fish farmer's intuition," are other important tools used to keep hatchery fish healthy. The result is the satisfaction gained in meeting stocking requirements and ensuring that Iowa's fishermen have abundant fish to provide them with plenty of angling pleasure in years to come.

Lookin' Back

Ten Years Ago

the *Iowa Conservationist* stressed the importance of water safety. Even though boating is a relatively safe sport, many Iowans drown or are injured each year while boating. Two of the most important things to remember are your boat's limitations and to operate at safe speeds.

All hawks and owls were protected by a law passed in 1970. Previously, only certain species were protected.

Twenty Years Ago

the magazine featured a story on sailboating. Almost every lake in Iowa had one or more sailboats even twenty years ago. In fact, yacht clubs have been established on the larger lakes for years. The author mentioned the high cost of gas for outboard motors. He hadn't seen anything yet.

It was not certain how serious the Dutch elm disease would be in Iowa. These trees were found in 90 to 100 feet specimens across the entire state. Sadly, the disease killed a high percentage of the trees in Iowa and many young children have never even seen one.

Thirty Years Ago

the *Conservationist* ran a story on Maquoketa Caves State Park which contains examples of natural stone bridges and caves. For an update on the park see next month's issue.

Governor William S. Beardsley was the speaker at the dedication of Lake Geode in Henry County. The 303 acre impoundment had been completed earlier in the year.

WARDEN'S DIARY

LAST MONTH Rex Emerson retired . . . to say we'll miss him would be the understatement of the year. For more than 25 years Rex has been a fixture with our department. I was going to say *"intricate part"* . . . but anyone who has known Rex would not describe him as intricate. He's intricate like Big Ben, delicate as a bull moose, and quiet as a freight train. It seems Rex has always been around. In any argument there wasn't much doubt where he stood, and he *always* had a stand. I don't believe he knew much about fence sitting or middle ground. Matter of fact, he sometimes kept some people busy "putting out brush fires" or "soothing ruffled feathers", as Rex went about doing his job. I take that back, being a game warden (and I'm sure that's what he preferred being called) wasn't just a job. It was a way of life. And he lived it!

That seems to be the way it is with most game wardens (conservation officers if you prefer). It doesn't start at 8 a.m. and stop at 5. In fact, everything we're interested in seems to start darned early in the morning or real late at night! It's a 25-hour, back-breaking, mosquito-slappin', bone-chillin', over-yer-boots, way of life with lots of frustrations. But with a very personal satisfaction that comes from within. There is the thrill of the cry of wild geese going north in the spring; the look on a youngster's face when he catches his first trout, or hears his first ruffed grouse drumming. The quiet understanding that passes to you from your hunting partner, who *knows* without words what the out-of-doors means to both of you.

I don't know if Rex can "shut it off" after all these years, but probably the only thing that will stop is his paycheck. I imagine people will continue to stop him to say *"I've been meaning to ask you a question . . ."* and go on with something about law, identification of a strange animal or bird, how fishing or hunting is, or complain about something that happened from one to 20 years ago, or maybe just to relate an experience they wish to share with someone who understands. Rex will grin, listen, offer advice, and maybe spin a tale himself.

Yes, we'll miss Rex's tale of the old man who lives down by the river and his stories. I'm going to try to continue the Warden's Diary and relate to you some of my experiences with hunters, fishermen, and other wardens, some of the finest men that walk out-of-doors. And I'll be visiting from time to time with that old man by the river, but heck . . . Rex Emerson *is* that old man by the river.

CLASSROOM CORNER

by Robert Rye

WATCHING water bounce and swirl as it moves in a small stream holds the interest of many an observer. Watch a group of young or old when they cross a small bridge, they can't resist stopping and looking and if they are the young type they will shortly be *in* the stream.

Have you ever looked at the bottom of a stream? The rocks show glossy color by their being wet. Some rocks are found with small animals crawling on them. Usually the animals are not even observed because we look but don't see.

Do you know what some of these "water rock" animals might be? Remember, they're small — less than one inch long. We have heard some of their names — snails, dragon flies and mayflies but the other animals — snipe flies, scuds and black flies are less common.

Who has seen a black fly? They look almost like a worm and hundreds of them can cling to a single rock. They look odd because there is a swelling at one end where they attach to the rock and a feeding end with a fan and cap-like part. This stage you're looking at is only one stage in their life.

The adult, female black fly usually lays her eggs in late spring or summer on submerged vegetation or stones in running water. Two months later the newly hatched larvae drift down stream and attach with threads of "silk" secretions and hooks on the swollen part of their abdomen. The larvae feed on suspended food that drifts by in the current. The food sizes range from as small as bacterium to as large as a sand grain.

As members of stream communities, this filter feeding by immature black flies plays an important role in water quality control by consuming and removing large quantities of suspended particulate material from the water. In the food chain, black flies are also important as a food for fish.

The immature black flies grow slowly and pass through several stages getting progressively larger. The larvae then pupate by spinning a pupal cocoon, similar to what most people have seen a butterfly emerge from. Seven to ten days later the adults emerge and live only about three weeks.

As an adult, they cause some problems. The female will bite humans and other animals. The male feeds on nectar.

Black flies have an extensive individual range. They will visit areas six to eight miles from the breeding site. By comparison a mosquito will move only two miles.

Next time you're on that bridge looking at the stream, take the time to go down into the stream and pick up a stone and *look* at it.

PHOTO BY KEN FORMANEK